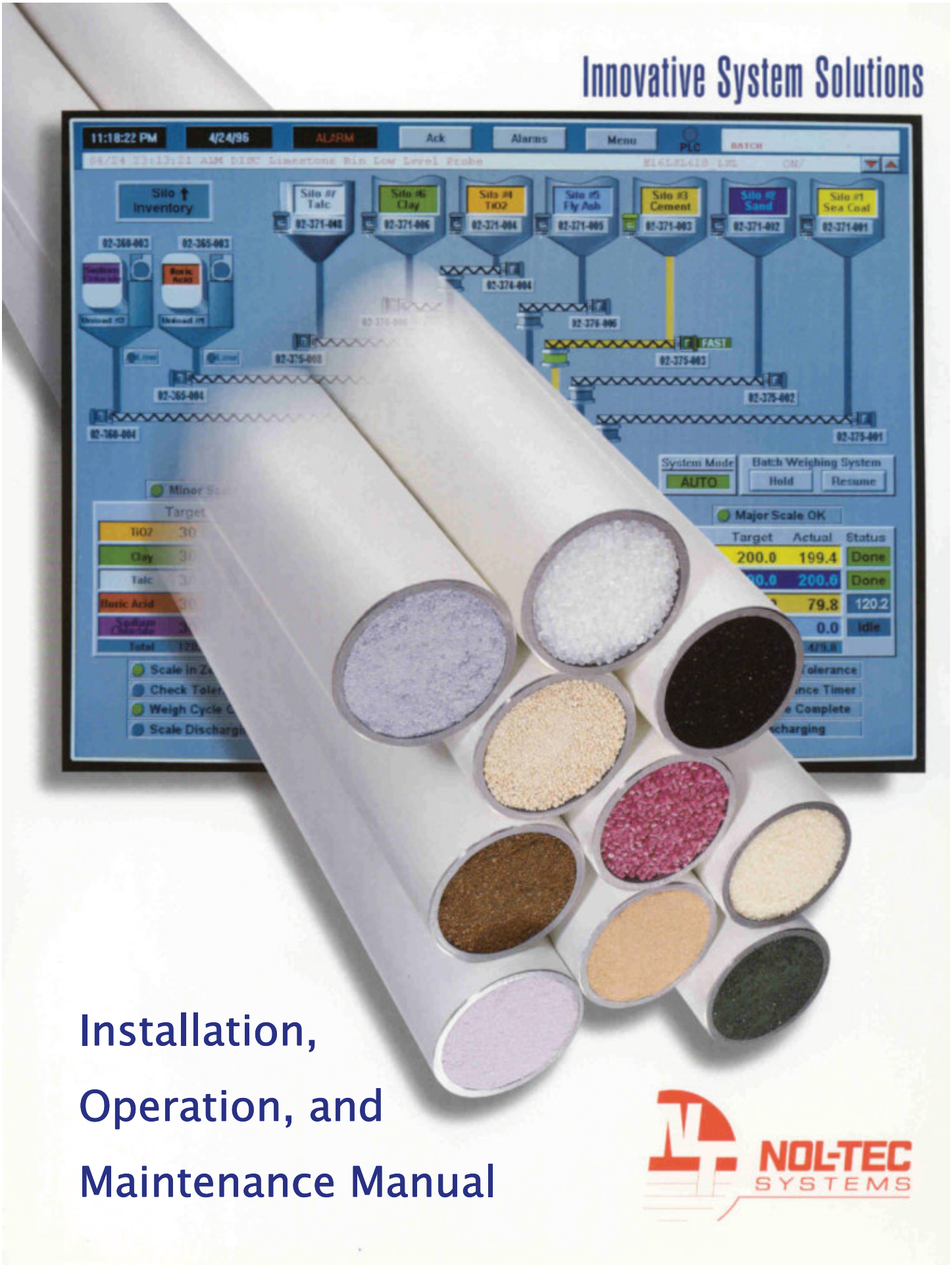
Innovative System Solutions



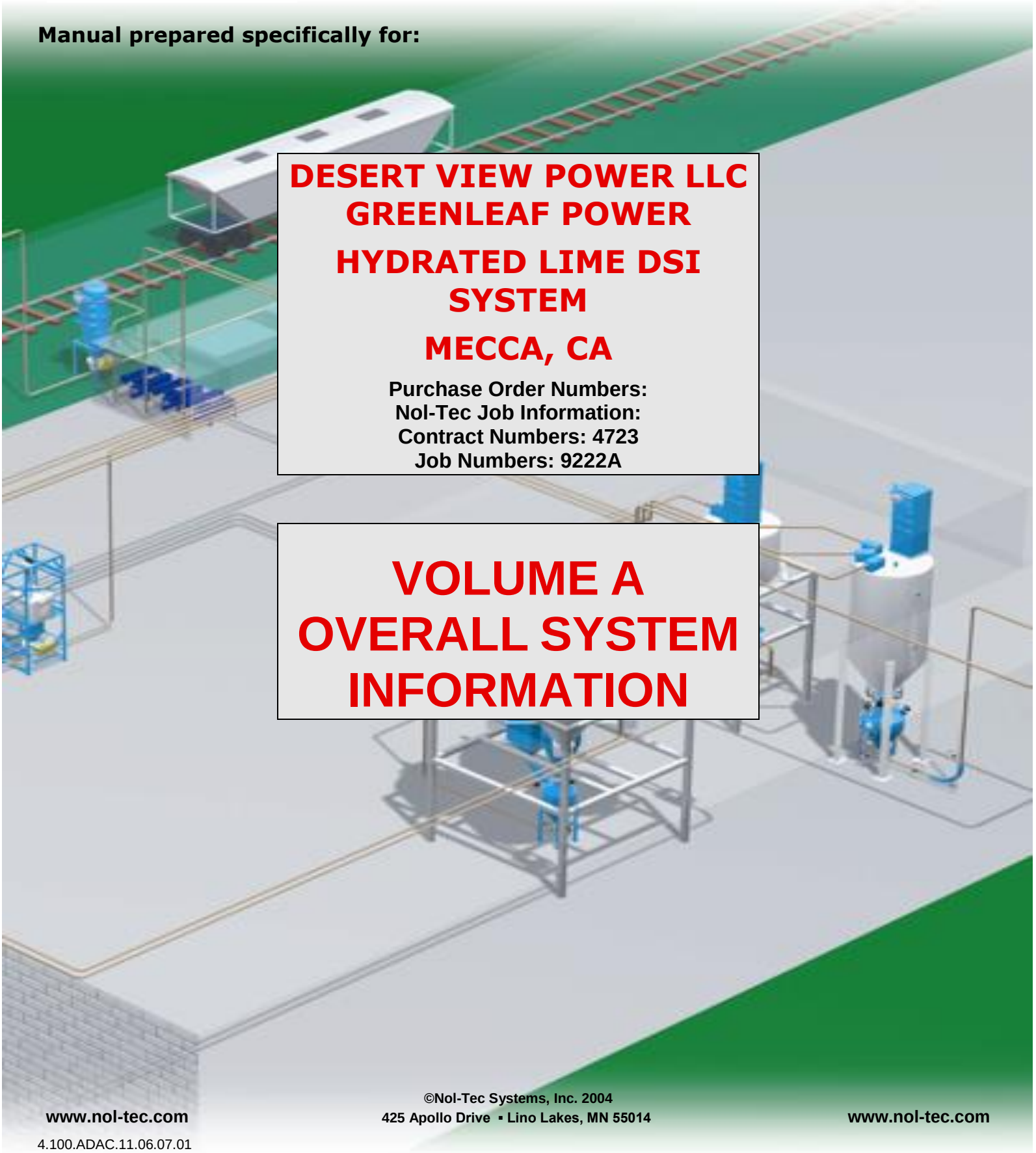
Installation, Operation, and Maintenance Manual

NOL-TEC SYSTEMS

651-780-8600 P
651-780-4400 F

www.nol-tec.com

Manual prepared specifically for:



DESERT VIEW POWER LLC
GREENLEAF POWER
HYDRATED LIME DSI SYSTEM
MECCA, CA

Purchase Order Numbers:
Nol-Tec Job Information:
Contract Numbers: 4723
Job Numbers: 9222A

VOLUME A
OVERALL SYSTEM INFORMATION

425 Apollo Drive ▪ Lino Lakes, MN 55014

651-780-8600 P
651-780-4400 F

www.nol-tec.com

Manual prepared specifically for:

DESERT VIEW POWER LLC
GREENLEAF POWER
HYDRATED LIME DSI SYSTEM
MECCA, CA

Purchase Order Numbers:
Nol-Tec Job Information:
Contract Numbers: 4723
Job Numbers: 9222A

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425 Apollo Drive ▪ Lino Lakes, MN 55014

Operation & Maintenance Manual
Desert View Power LLC, Greenleaf Power
Hydrated Lime DSI System
MECCA, CA
Nol-Tec Contract Numbers: 4723
Nol-Tec Systems Site Numbers: 9222A

IOM Manual History Log

Status (Initial Release or Change)	Revision Number	Date Released	Section/Sub-Section Changed
Initial Release	0	1/29/16	

Operation & Maintenance Manual

Desert View Power LLC, Greenleaf Power

Hydrated Lime DSI System

MECCA, CA

Nol-Tec Contract Numbers: 4723

Nol-Tec Systems Site Numbers: 9222A

Table of Contents

Revision Date

Operation & Maintenance Manual
Desert View Power LLC, Greenleaf Power
Hydrated Lime DSI System
MECCA, CA
Nol-Tec Contract Numbers: 4723
Nol-Tec Systems Site Numbers: 9222A

Section A1. Main Single Level Bill of Materials **Revision Date**

A1.1 Bill of Material, Site 9222 System A, Hydrated Lime DSI System – 67018

425 Apollo Drive
Lino Lakes, MN 55014
Phone: (651) 780-8600
Fax: (651) 780-4400

BILL OF MATERIAL

Catalog Number: 67018

SITE 9222 SYSTEM A
DESERT VIEW POWER - GREENLEAF POWER
PO #XXXXXXXXXX
HYDRATED LIME DSI SYSTEM

	Item #	Part #	Qty	UOM	Drawing	Description	Schedule B	
A	001	67328	1	EA		PAINT SPECIFICATION #9222 DESERT VIEW POWER NOL-TEC 9222A-10		
A	010	67031	1	EA		FRAME, LOWER, DAY BIN, ASEM NOL-TEC 9222A-14		M
A	011	67027	1	EA		FRAME, UPPER, DAY BIN, 250 CU. FT. HOPPER, ASEM NOL-TEC 9222A-15		M
A	012	67333	1	EA		DUST COLLECTOR, 60NT25, MS, ASEM WITH EXHAUSTER MOUNTING NOL-TEC 238-25-60-265-24-2-ASEM		M
A	013	67028	1	EA		BLOWER PACKAGE, PRESSURE, 20 HP, 200 SCFM @ 10 PSIG, 3/60/460V, TEFC NOL-TEC (HARDY) SOUND ENCLOSURE 9222A-21 (HPP-MD5003-20HP-2.5-4)		
A	014	67026	2	EA		BLOWER PACKAGE, PRESSURE, 20 HP, 200 SCFM @ 10 PSIG, 3/60/460V, TEFC NOL-TEC (HARDY) SOUND ENCLOSURE 9222A-20 (HPP-MD5003-20HP-2.5-3)		
A	015	67590	2	EA		HEAT EXCHANGER, AIR COOLED, 1HP,3" IN & OUT, INSTRUMENT COUPLING, 279 F TO 132 FNOL-TEC (XCHANGER, INC) 9222A-61 (MODEL AA-250, RH)		
A	016	67599	1	EA		LADDER, DAY BIN ACCESS, 24'-7" TALL, MS, BOLTED CONNECTION NOL-TEC (BELGRADE) 9222A-63		
A	017	67664	1	EA		TRAILER, PNEUMATIC DRY BULK TANK, 1600 CU FT, ASEM NOL-TEC 9222A-62		M
A	018	67613	1	EA		LIGHTNING PROTECTION, ASEM, DAY BIN, NOL-TEC 9222A		M
A	019	67381	2	EA		CONNECTOR, FLEX 4 3/4" ID x 6 5/8" ID 5" LG RCN OUTER, W/ 5"LG .020 THK LINER NOL-TEC (w/ clamps)		

BILL OF MATERIAL

Catalog Number: 67018

SITE 9222 SYSTEM A
DESERT VIEW POWER - GREENLEAF POWER
PO #XXXXXXXXXX
HYDRATED LIME DSI SYSTEM

Item #	Part #	Qty	UOM	Drawing	Description	Schedule B	
					9222A-49		
A 020	67352	2	EA		ADAPTER, FLGD, 6" DIA. X 2-1/2" LG, MS WITH 7GA. PLATE RING FLANGE NOL-TEC 9222A-45		
A 021	61500	2	EA		SCALE, BENCH, 1,000#, 18 X 24 x 5.25 SINGLE POINT, RL1260 LOAD CELL RICE LAKE 18620	8423.89.0000	
A 022	28974	3	EA		TRANSMITTER, PRESSURE, -15 TO +15 PSIG 4-20mA, 1/2 CONDUIT, 1/2" MNPT/1/4"FNPT ENDRESS-HAUSER PMC 131-A22F1V6N	9026.20.0000 US-2	
A 023	55864	5	EA		TRANSMITTER, TEMP, RTD, 1/2 NPT, 0-400 FPYROMATION 4" INSERT, 2-WIRE RBF185L482-S4C0408-SC-8HN31, T440-285U-S (0-400) F		
A 024	10151	29	EA		CLAMP, QUICK RELEASE, 301SS NOL-TEC LS104 (229-999)	8421.91.0080 MEX-2	
A 025	32533	25	EA		FILTER, CARTRIDGE, BTTM RMVL, 30 SQ FT 36", SB SPUN BOND POLY, 42.6"OAL, TDC FILTER MFG (MAX TEMP 225F) 80000923 (N/T 388-41)	8421.99.0080 USA-3	
A 026	20515	1	EA		EXHAUSTER, PB14A, 1100 CFM, 3HP, 6" SP, 8" INLET, CCW BH, ARR4, 230/460V CINCINNATI FAN (W/DISCHRG GUARD) 287-97 PB-14A	8414.51.0010	
A 027	10433	5	FT		HOSE, FLEXAUST, 8" ID APACHE RFH-8	3917.39.0000-USA-1	
A 028	67409	6	EA		ENCLOSURE, FIELD DISCONNECT NOL-TEC 9222A-53		M
A 029	67375	1	EA		CONTROL ENCLOSURE, DC, 5-BANK, 24 VDC, NEMA 4X, W/TIMER BOARD, DIFF PRESS TRANS NOL-TEC 9222A-47		M
A 030	67420	1	EA		VALVE, BUTTERFLY, 5", SERIES 30, ASEM 118 TRIM, 92-ACT, MLS, MAC SGL SOL,24VDC NOL-TEC BF-5-30-118-92-MLS-MAC-SGL-24VDC-ASEM	8481.80.9035-USA-1	M
A 031	67431	2	EA		GRAVITY SPLITTER, ASEM 3" SCH 40 INLET,(4)1-1/2" SCH 40 OUTLETS NOL-TEC 9222A-56		M
A 032	17192	1	EA		ADAPTER, FLGD, 5" SCH 40 X 6" LG, MS		

BILL OF MATERIAL

Catalog Number: 67018

SITE 9222 SYSTEM A
DESERT VIEW POWER - GREENLEAF POWER
PO #XXXXXXXXXX
HYDRATED LIME DSI SYSTEM

	Item #	Part #	Qty	UOM	Drawing	Description	Schedule B
						NOL-TEC 209-100-05-40-6.00-MS	
A	033	67372	1	EA		BRACKET, SUPPORT FOR 4" & 5" PIPE, MS, DAY BIN SUPPORT NOL-TEC 9222A-46	
A	034	65249	8	EA		BEND, CROSS, 1-1/2" SCH 40, MS, FAB (2) ENDS CAPPED NOL-TEC 9131A-65	
A	035	55168	1	EA		BEND, TEE, 4" SCH 40, MS PLAIN END NOL-TEC 418-3-4-40-MS	
A	036	63861	1	EA		BEND, TEE, 4" TO 6" SCH 40, MS, FAB (1) END CAP 90 DEG, 8" TO 6" REDUC FNG,NOL-TEC 9179A-66	
A	037	35784	10	EA		BEND, 3" SCH 40, 90 DEG, MS 24" CLR, 6" TAN & 6" TAN NOL-TEC 3-S40-90-24R-6T-6T-MS	7307.92.9000 US
A	038	16685	6	EA	B-246-1	ELBOW, 5" SCH 40, 90 DEG, MS NOL-TEC 246-1-5-40-17.00X17.00-MS	
A	039	62773	4	EA		ELBOW, 4" SCH 40, 90 DEG, MS 12" CLR, 6" & 6" TAN NOL-TEC (MORRIS) MODEL 392 4-S40-90-12R-6T-6T-MS	
A	040	66059	8	EA		HOSE, 1-1/2" X 36", MATERIAL HANDLING 690SB, SCH 40 PLAIN ENDS, INT EXPANDED NOL-TEC 9130A-60-36"	
A	041	67427	2	EA		HOSE, 3" X 7'-0", MATERIAL HANDLING, 690SB, PLAIN ENDS, INT EXPANDED NOL-TEC 9222A-54	
A	042	11845	100	FT		PIPE, 5" SCH 40, MS	
A	043	13810	100	FT		PIPE, 4" SCH 40, MS	7304.39.0000 USA-1
A	044	14372	300	FT		PIPE, 3" SCH 40, MS	7304.39.0000 USA -1
A	045	60316	80	FT		PIPE, 1-1/2" SCH 40, MS	
A	046	11355	15	EA		COUPLING, STYLE 99, 5" VICTAULIC 99-5-E	7307.11.0060
A	047	10211	15	EA		COUPLING, STYLE 99, 4" VICTAULIC 99-4-E	7307.11.0060-USA-1

BILL OF MATERIAL

Catalog Number: 67018

SITE 9222 SYSTEM A
DESERT VIEW POWER - GREENLEAF POWER
PO #XXXXXXXXXX
HYDRATED LIME DSI SYSTEM

	Item #	Part #	Qty	UOM	Drawing	Description	Schedule B
A	048	10210	40	EA		COUPLING, STYLE 99, 3" VICTAULIC 99-3-E	7307.11.0060-USA-1
A	049	18741	32	EA		COUPLING, STYLE 99, 1-1/2" VICTAULIC 99-1-1/2-E	7307.11.0060-USA-1
A	050	65747	1	EA		U-BOLT, EXTND LENGTH, 4-9/16", 1/2"-13, HOT DIP GALVANIZED, FOR 4" PIPE, 4 NUTS MCMASTER CARR 8862T34	
A	051	65746	1	EA		U-BOLT, EXTND LENGTH, 5-5/8", 1/2"-13, HOT DIP GALVANIZED, FOR 5" PIPE, 4 NUTS MCMASTER CARR 8862T35	
A	052	16435	8	EA		BOLT, HEX HEAD, 3/4"-10 X 5", MS, PLT MINIMUM GRADE 5	7318.15.2000-TWN-2
A	053	11250	8	EA		BOLT, HEX HEAD, 3/4"-10 X 2-1/2", MS,PLT MINIMUM GRADE 5	7318.15.2000
A	054	11784	16	EA		NUT, HEX HEAD, 3/4"-10, MS, PLT	
A	055	11696	16	EA		LOCKWASHER, 3/4", MS, PLT	
A	056	61604	8	EA		BOLT, HEX HEAD, 1/2"-13 X 4", MS,PLT MINIMUM GRADE 5	
A	057	11235	12	EA		BOLT, HEX HEAD, 1/2"-13 X 1-1/2", MS,PLT MINIMUM GRADE 5	7318.15.2000-TWN-2
A	058	11778	28	EA		NUT, HEX HEAD, 1/2"-13, MS, PLT	
A	059	11692	20	EA		LOCKWASHER, 1/2", MS, PLT	
A	060	67430	1	EA		LIGHT, LED, 3K L, 120-277 VAC, 50/60HZ, 41W, 1-1/2" STANCHION STRAIGHT MOUNT, CROUSE & HINDS PVM 3L W P /UNV1	
A	061	67363	4	EA		LIGHT, LED, 3K L, 120-277 VAC, 50/60HZ, 41W, 1" WALL MOUNT, CROUSE & HINDS PVM 3L W 3TW /UNV1	
A	062	63472	1	EA		LIGHT, WALL MOUNT, 4" BOX, 100 W, W/ GLASS GLOBE & CAT GUARD 9-3/4" H X CRESCENT STONCO 7-1/4" W VWXL11GC	
A	063	67563	4	EA		NOZZLE, 1-1/2" LANCE INJECTOR, MS, (1) LANCE, 4" 150 LB MTG, 50" LG NOL-TEC 9222A-59	
A	064	67564	4	EA		NOZZLE, 1-1/2" LANCE INJECTOR, MS, (1) LANCE, 4" 150 LB MTG, 75" LG NOL-TEC 9222A-60	
A	065	45147	8	EA		FLANGE, 4", 150 LB, THREADED, MS	

BILL OF MATERIAL

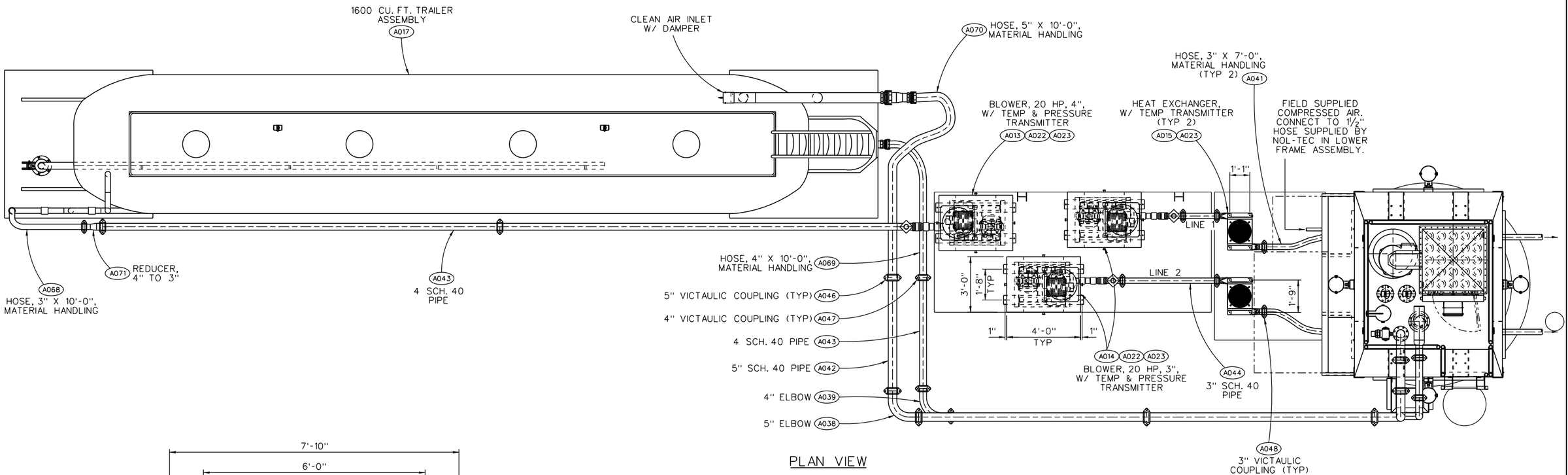
Catalog Number: 67018

SITE 9222 SYSTEM A
DESERT VIEW POWER - GREENLEAF POWER
PO #XXXXXXXXXX
HYDRATED LIME DSI SYSTEM

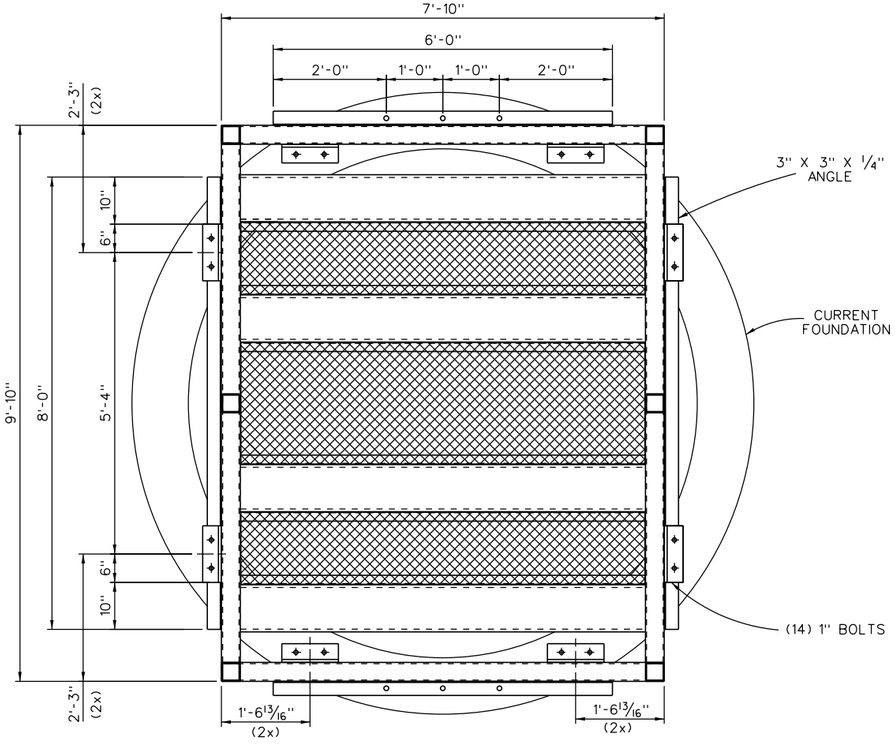
	Item #	Part #	Qty	UOM	Drawing	Description	Schedule B	
A	066	10602	8	EA		NIPPLE, 4" X 12", MS, GALV		
A	067	18198	8	EA		COUPLING, 4", MALL		
A	068	67715	1	EA		HOSE, 3" X 10'-0", MATERIAL HANDLING, 690SB, INT EXPANDED PLAIN END X INT EXPANDED FEMALE CAMLOCK NOL-TEC 9222A-71		
A	069	67598	1	EA		HOSE, 4" X 10'-0", MATERIAL HANDLING, 690SB, INT EXPANDED PLAIN END X INT EXPANDED FEMALE CAMLOCK NOL-TEC 9222A-64		
A	070	67602	1	EA		HOSE, 5" X 10'-0", MATERIAL HANDLING, 690SB, INT EXPANDED PLAIN END X INT EXPANDED FEMALE CAMLOCK NOL-TEC 9222A-65		
A	071	44836	1	EA	B-297-1	REDUCER, 4" TO 3" CONCENTRIC, MS NOL-TEC 297-1-3-40-4-40-PE-PE-MS		
A	072	67772	1	EA		AIR SUPPLY, TOP OF DAY BIN, ASEM, NOL-TEC 9222A-72		M
A	073	67985	3	EA		ENCLOSURE, FIELD DISCONNECT, 60 AMP, NOL-TEC 9222A-73		M
A	074	32357	2	EA		TEST WEIGHT, CALIBRATION, 50 LB RICE LAKE WEIGHING 12839		
A	075	51989	1	EA		SILICON RTV ADHESIVE, CLEAR, DOW CORNING 732, MCMASTER CARR 7587A3		
A	500	67626	1	EA		CONTROL ENCLOSURE (CP050) PIG REMOTE I/O PANEL NOL-TEC 9222A-7 (SHT. 50)		M

Section A2. Mechanical Drawings

Revision Date



PLAN VIEW



DAY BIN MOUNTING DETAIL
SCALE - 2X

REV	DATE	REVISION NOTE	DRAWN	DESIGN
2	07JAN16	ADDED BRACKET	DAZ	JJW
0	23NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
A	11SEP15	ISSUED FOR APPROVAL	MJB	MJB

AREA PLAN
MECHANICAL GENERAL ARRANGEMENT
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO | DATE 04.Sep.15 | CATALOG NO. 67018
DESIGN BY M. BOSIO | SCALE 3/8"=1'-0"

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DRAWING NO. 9222A-2-003

27'-9½"

20'-2⅝"

7'-10½"

10'-4"

11"

FLOW

C 5

A 6

B 6

FIELD SUPPLIED COMPRESSED AIR

TOP OF DAY BIN AIR SUPPLY (A072)

DUST COLLECTOR MODEL 60NT25, CARTRIDGES, CLAMPS, ENCLOSURES, & MAGNEHELIC GAUGE APPROX. WT.: 775 Lbs. 750 s/f MEDIA AREA (A012) (A024) (A025) (A029)

DAY BIN LADDER (A016)

REMOVABLE LADDER SECTION

LIGHTNING PROTECTION (A018)

STACHION MOUNT LIGHT (A060)

8" HOSE, FLEXAUST (A027)

EXHAUSTER, 1000 CFM (A026)

5" ELBOW (A038)

5" BUTTERFLY VALVE, AND ADAPTER (A030) (A032)

HOPPER & UPPER FRAME ASSEMBLY (A011)

EXTERIOR LIGHTS (TYP 4) (A061)

5" VENT PIPE (A042)

INTERIOR LIGHT (A062)

EXHAUST FAN (FAR SIDE)

PIPE SUPPORT BRACKET W/ U-BOLTS (A033) (A050) (A051)

LOWER FRAME ASSEMBLY (A010)

3'-6" x 4'-6" 14 GA. ACCESS PANELS (TYP 4 PLACES) (THIS SIDE & OPPOSITE)

CONTROL ENCLOSURE

5" ELBOW (A038)

FLOW

5" TRAILER VENT

4" SILO FILL

(A039) 4" ELBOW

HOPPER ELEVATION VIEW

SEE PLAN VIEW FOR CORRECT ORIENTATIONS

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	23NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	11SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

DAY BIN ELEVATION
MECHANICAL GENERAL ARRANGEMENT
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO — DATE 12.Aug.15
DESIGN BY M. BOSIO — SCALE 1"=1'-0"

CATALOG NO. 67018

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DRAWING NO. 9222A-2-004

7'-6⅝"

20'-2⅝"

7'-10½"

10'-4"

DUST COLLECTOR MODEL 60NT25, CARTRIDGES, CLAMPS, ENCLOSURES, EXHAUSTER & MAGNEHELIC GAUGE
APPROX. WT.: 775 Lbs.
750 s/f MEDIA AREA
A012 A024 A025 A026 A027 A029

HOPPER & UPPER FRAME ASSEMBLY A011

18" EXHAUST FAN

5'-0" X 5'-0" 14 GA. ACCESS PANELS (TYP 4 PLACES) (THIS SIDE ONLY)

LOWER FRAME ASSEMBLY A010

LIGHTNING PROTECTION A018

4" INLET END RECEIVER A036

5" COUPLING TYP. A046

STACHION MOUNT LIGHT A060

5" ELBOW A038

4" TEE BEND A035

4" COUPLING TYP. A047

4" SILO FILL LINE A043

EXTERIOR LIGHTS (TYP 4) A061

DAY BIN LADDER A016

1/2" FASTENERS (TYP) A057 A058 A059

PIPE SUPPORT BRACKET W/ U-BOLTS A033 A050 A051

7'-5"

REMOVABLE LADDER SECTION

ELEVATION VIEW C/4
SEE PLAN VIEW FOR CORRECT ORIENTATIONS

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	23NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	11SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

DAY BIN ELEVATION
MECHANICAL GENERAL ARRANGEMENT
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO — DATE 12.Aug.15
DESIGN BY M. BOSIO — SCALE 1"=1'-0"

CATALOG NO. 67018

DRAWING NO. 9222A-2-005

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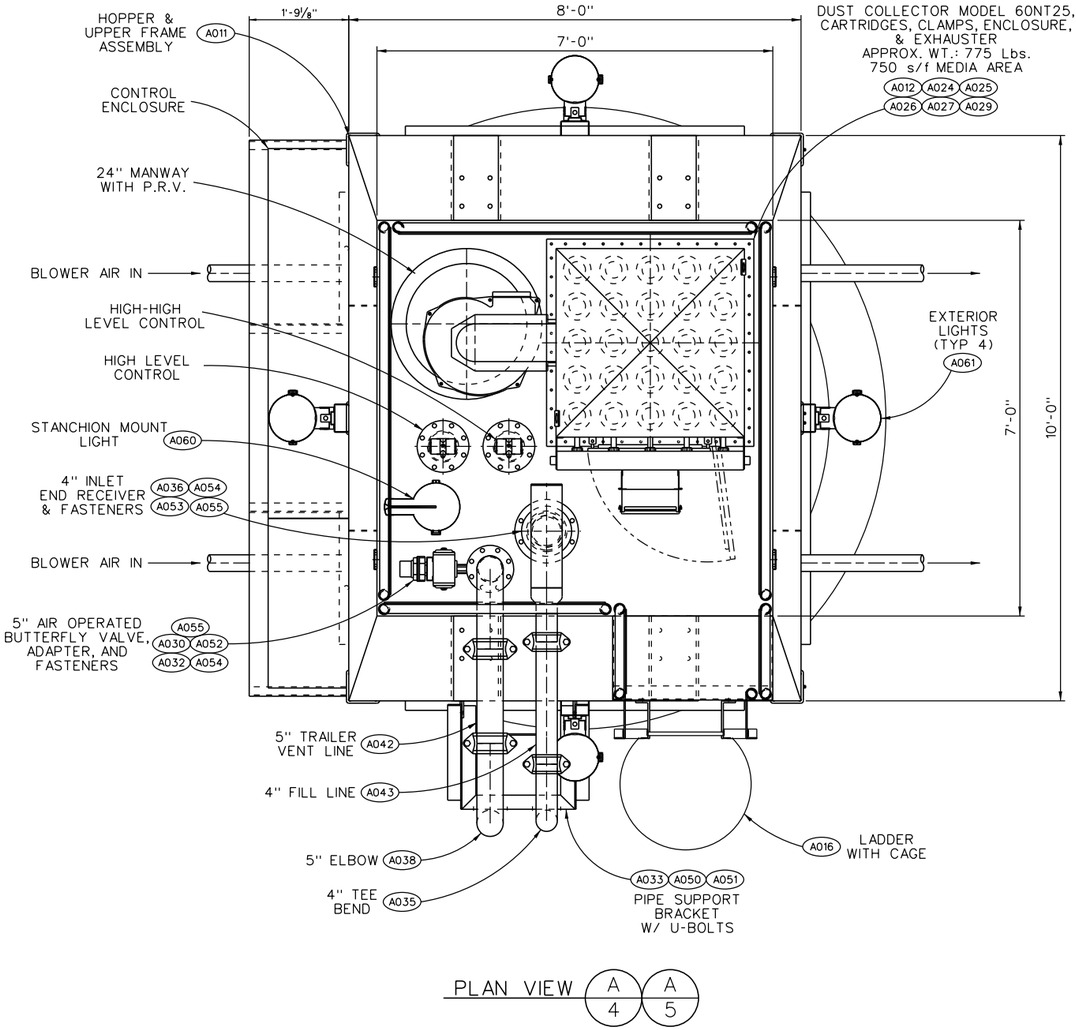
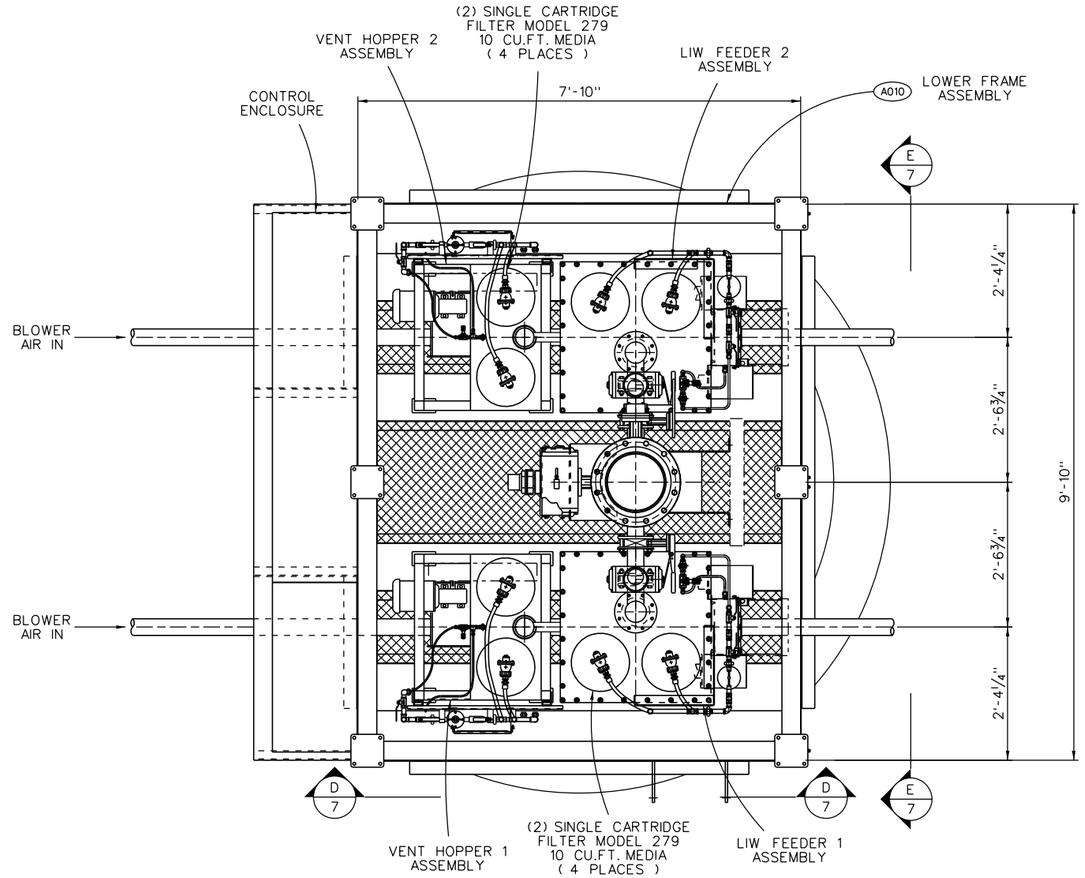


PLAN VIEW A/4 A/5



PLAN VIEW B/4 B/5

REV	DATE	REVISION NOTE	DRAWN	DESIGN
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B	11SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

DAY BIN SECTION PLAN VIEWS
MECHANICAL GENERAL ARRANGEMENT
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO | DATE 12.Aug.15 | CATALOG NO. 67018
DESIGN BY M. BOSIO | SCALE 3/4"=1'-0"

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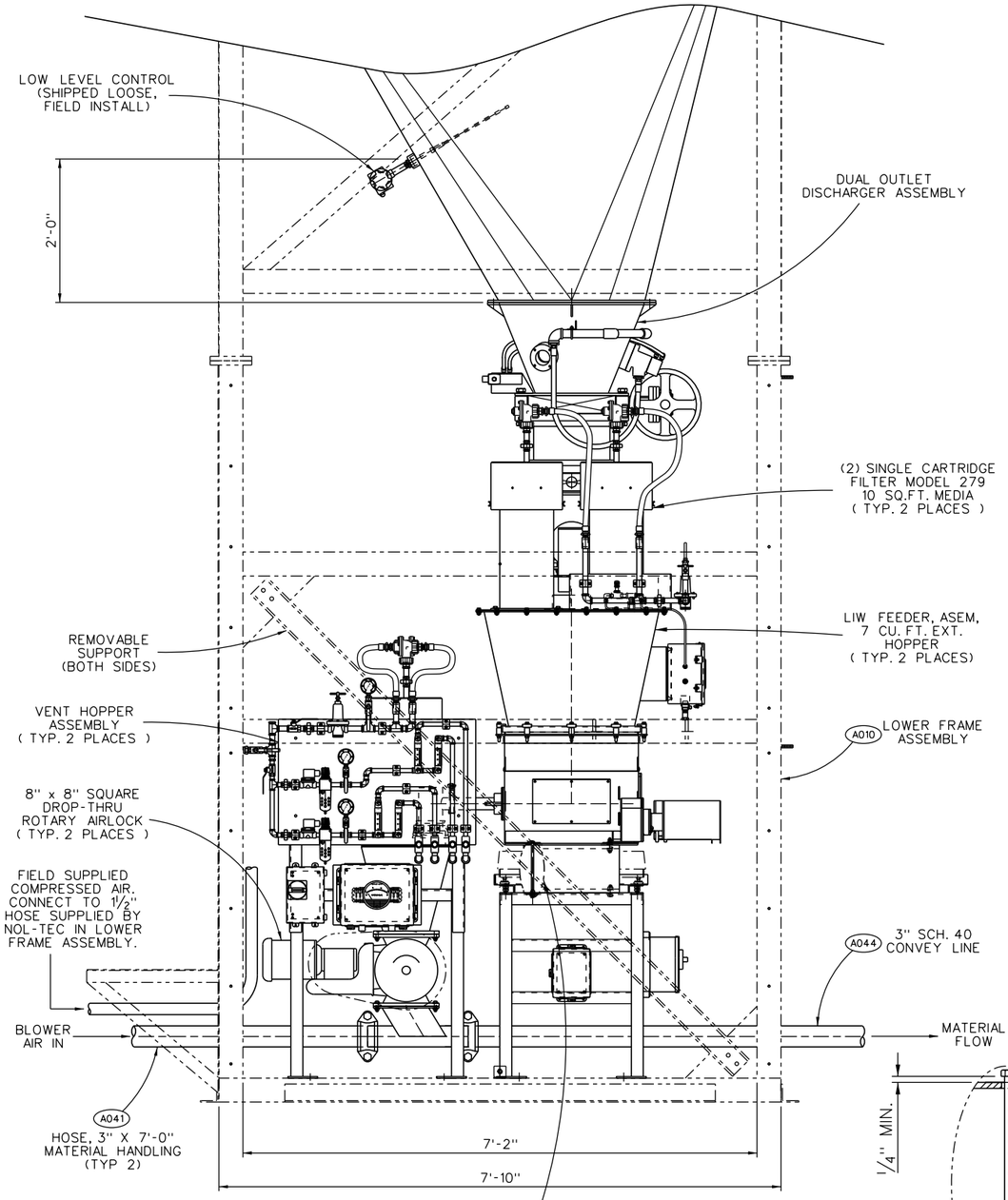
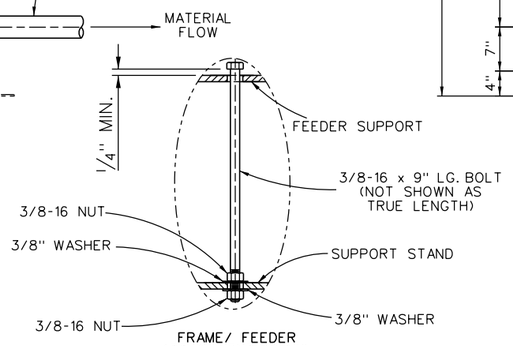
DRAWING NO. 9222A-2-006

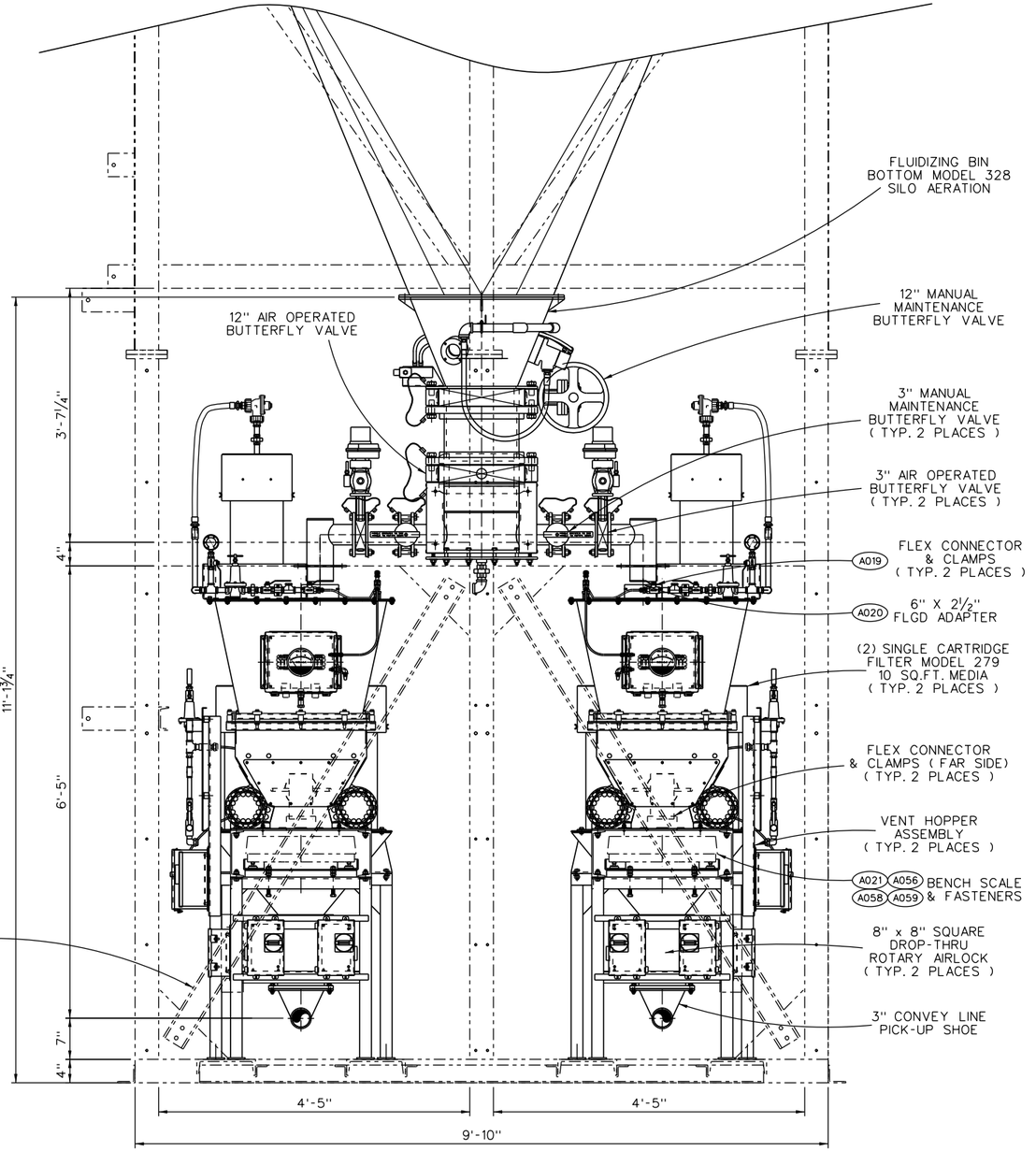


ELEVATION D 6



FRAME/ FEEDER ATTACHMENT DETAIL

NOTE: FIELD TO REMOVE SHIPPING BRACE AND INSTALL OVER TRAVEL BOLTS SHOWN IN DETAIL



ELEVATION E 6

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	23NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	11SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

DAY BIN SECTION ELEVATIONS
MECHANICAL GENERAL ARRANGEMENT
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO — DATE 12.Aug.15
DESIGN BY M. BOSIO — SCALE 1"=1'-0"
CATALOG NO. 67018

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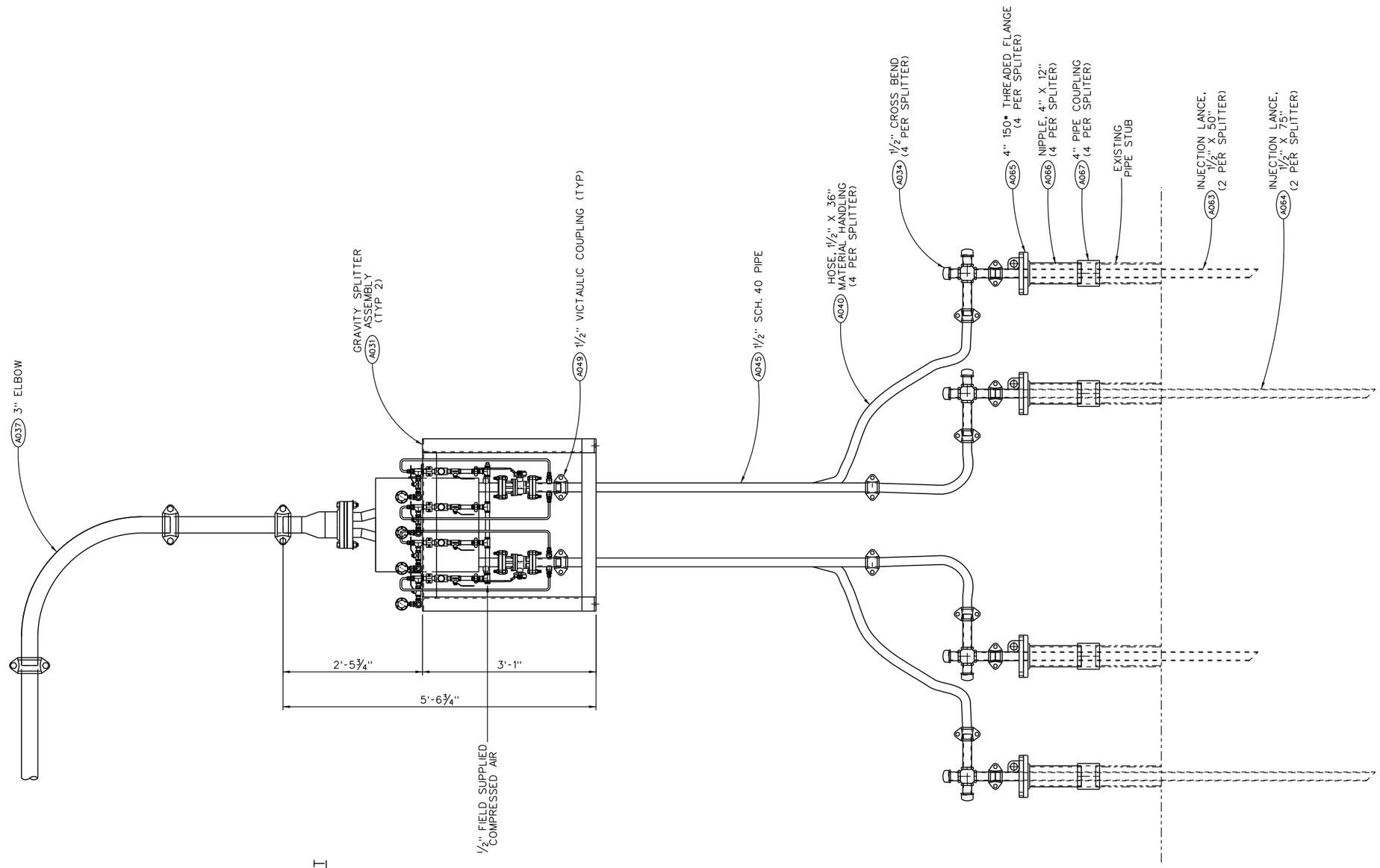
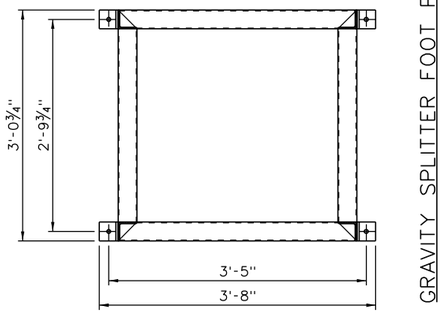
DRAWING NO. 9222A-2-007





GRAVITY SPLITTER FOOT PRINT

					INJECTION LOCATION ELEVATION		
					MECHANICAL GENERAL ARRANGEMENT		
					DRY SORBENT INJECTION SYSTEM		
					GREENLEAF POWER-DESERT VIEW		
0	23NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB	DRAWN BY M. BOSIO	DATE 20.Nov.15	CATALOG NO. 67018
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY M. BOSIO	SCALE 1"=1'-0"	

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DRAWING NO. 9222A-2-008

COMPRESSED AIR SUPPLY (BY OTHERS)

1"

A

DAMPER XXX-XX-XXX

OPEN TO ATMOSPHERE

6"

5"

VENT LINE TO DAY BIN 9222A-4-005

HIGH LEVEL

LAH

DSI-LSH-XXX

HIGH LEVEL

LAH

DSI-LSH-XXX

4"

1/2"

DSI-F-XXX

F

1"

A

DSI-VLV-XXX

PNEUMATIC TRAILER
1,600 CU. FT.
USEABLE CAPACITY
DSI-TRAILER-XXX

DSI-VLV-XXX

DSI-SV-XXX

DO

DSI-VLV-XXX

DSI-SV-XXX

DO

DSI-VLV-XXX

DSI-SV-XXX

DO

1/2"

DSI-VLV-XXX

3"

3/8"

3/8"

3/8"

3/8"

DSI-CV-XXX

DSI-VLV-XXX

2"

DSI-VLV-XXX

2"

DSI-VLV-XXX

2"

DSI-VLV-XXX

2"

DSI-VLV-XXX

PRESSURE TRANSMITTER

AI

DSI-PT-XXX

DSI-PI-XXX

1/4"

AI

DSI-TT-XXX

TEMPERATURE TRANSMITTER

DSI-TE-XXX

DI

DSI-DPS-XXX

DSI-RV-XXX

SET @ 10 PSIG

1/2"

1/2"

DSI-CV-XXX

4"

3"

DSI-VLV-XXX

4"

DAY BIN FILL LINE TO DAY BIN 9222A-4-005

OUTSIDE AMBIENT AIR

DSI-FLT-XXX

BLOWER 3

20 HP

DSI-BL-XXX

DSI-BL-XXX

DO

START

DI

RUNNING

4"

8" DIA PLATE SCREEN

TRUCK FILL

FILL LINE LIMIT SWITCH

DI

DSI-ZS-001

4"

DSI-LSL-XXX

LAL

LOW LEVEL 1

DSI-SV-XXX

DO

DSI-LSL-XXX

LAL

LOW LEVEL 2

DSI-LSL-XXX

LAL

LOW LEVEL 3

DSI-LSL-XXX

LAL

LOW LEVEL 4

LIMIT SWITCH CLOSED

DI

DSI-ZSC-XXX

LIMIT SWITCH OPEN

DI

DSI-ZSO-XXX

OPEN SOLENOID

DO

DSI-SV-XXX

TRAILER DISCHARGE VALVE 1

LIMIT SWITCH CLOSED

DI

DSI-ZSC-XXX

LIMIT SWITCH OPEN

DI

DSI-ZSO-XXX

OPEN SOLENOID

DO

DSI-SV-XXX

TRAILER DISCHARGE VALVE 2

LIMIT SWITCH CLOSED

DI

DSI-ZSC-XXX

LIMIT SWITCH OPEN

DI

DSI-ZSO-XXX

OPEN SOLENOID

DO

DSI-SV-XXX

TRAILER DISCHARGE VALVE 3

LIMIT SWITCH CLOSED

DI

DSI-ZSC-XXX

LIMIT SWITCH OPEN

DI

DSI-ZSO-XXX

OPEN SOLENOID

DO

DSI-SV-XXX

TRAILER DISCHARGE VALVE 4

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	19NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	24SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

PIPING AND INSTRUMENT DIAGRAM
PNEUMATIC TRAILER
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO | DATE 19.Aug.15 | CATALOG NO.

DESIGN BY M. BOSIO | SCALE NONE

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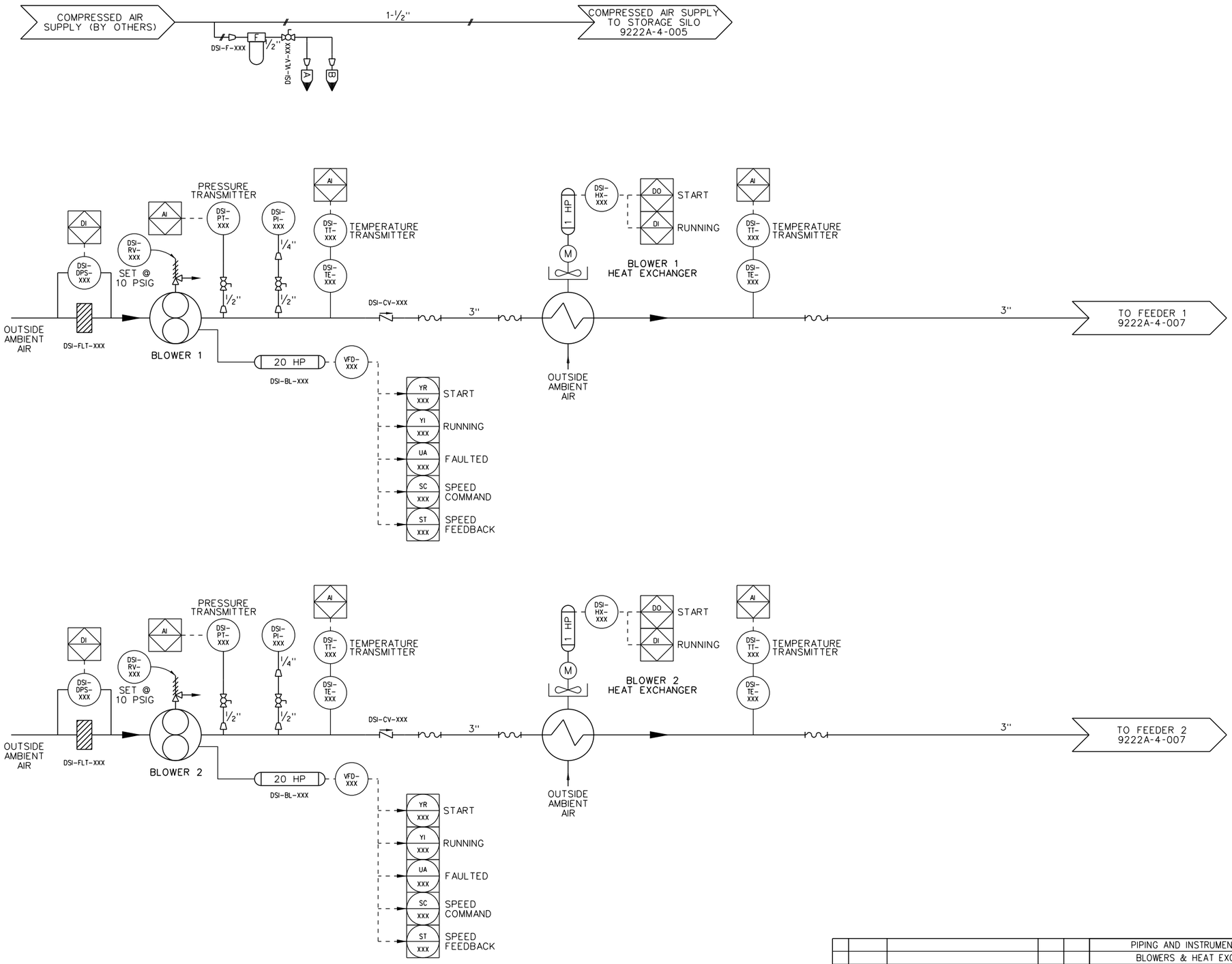
DRAWING NO. 9222A-4-003



REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	19NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	24SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

PIPING AND INSTRUMENT DIAGRAM
BLOWERS & HEAT EXCHANGERS
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER–DESERT VIEW

DRAWN BY M. BOSIO | DATE 19.Aug.15 | CATALOG NO.
DESIGN BY M. BOSIO | SCALE NONE

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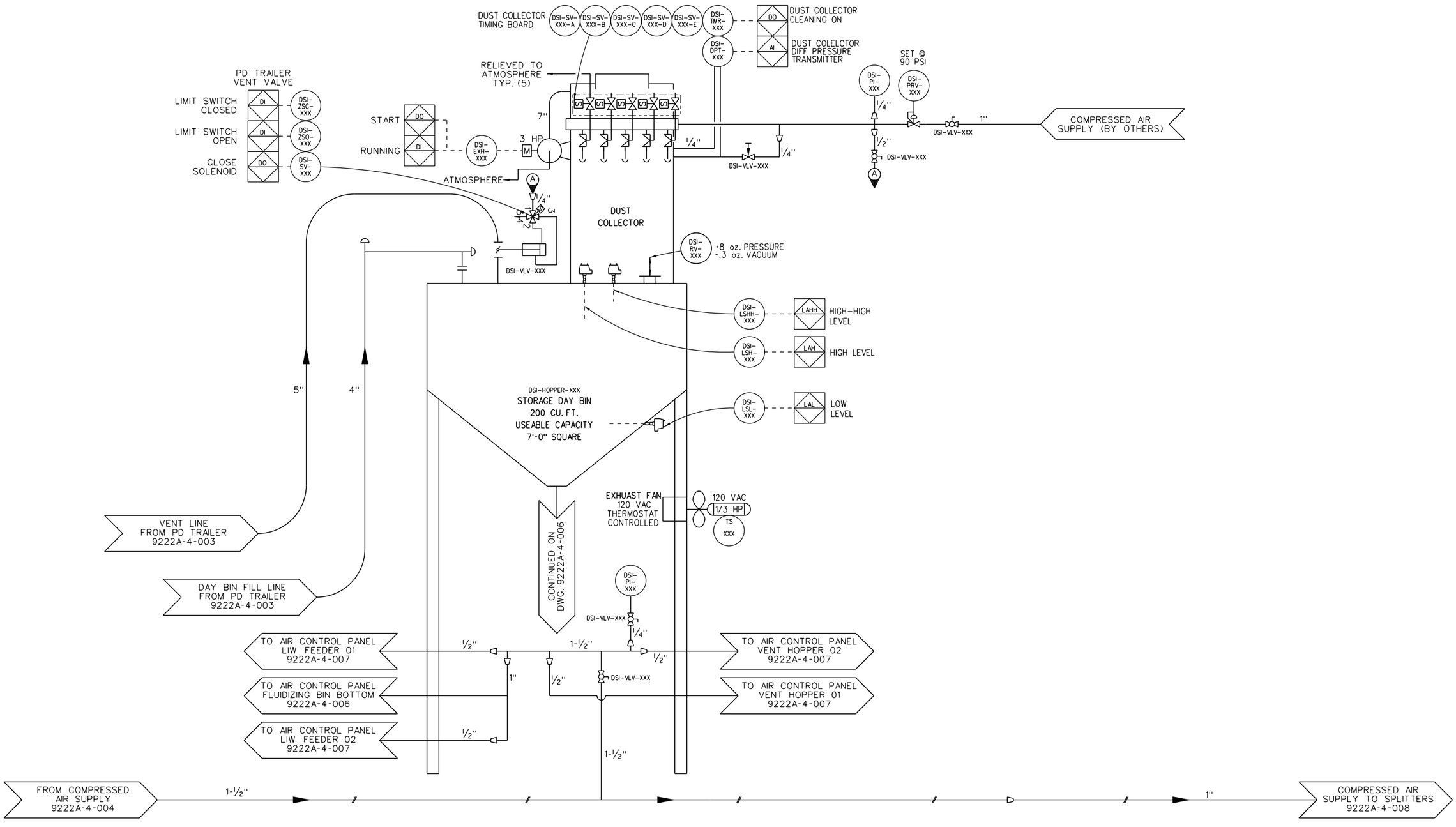
DRAWING NO. 9222A-4-004



REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	19NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	24SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

PIPING AND INSTRUMENT DIAGRAM
STORAGE DAY BIN
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO — DATE 19.Aug.15
DESIGN BY M. BOSIO — SCALE NONE
CATALOG NO.

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DRAWING NO. 9222A-4-005

CONTINUED FROM
9222A-4-005

FLUIDIZING BIN BOTTOM

A

3/4" 3/4" 3/4" 3/8 3/8

3/8 3/8 3/8 3/8 3/8

DSI-SV-XXX — DO — FLUIDIZING BIN BOTTOM

M0 — 3/4" — B

SILO DISCHARGE

DSI-ZSC-XXX — DI — LIMIT SWITCH CLOSED

DSI-ZSO-XXX — DI — LIMIT SWITCH OPEN

DSI-SV-XXX — DO — OPEN SOLENOID

12"

DSI-VLV-XXX

DSI-VLV-XXX

3 — 3/4" — C — 2 4 5 1

12"

DAY BIN DISCHARGE

3 — 1/4" — D — 2 4 5 1

3 — 1/4" — E — 1 5 4 2

3" 3"

DSI-VLV-XXX DSI-VLV-XXX DSI-VLV-XXX DSI-VLV-XXX

LIW FEEDER 1
9222A-4-007

LIW FEEDER 2
9222A-4-007

LIW FEEDER 1
INLET VALVE

LIMIT SWITCH CLOSED — DI — DSI-ZSC-XXX

LIMIT SWITCH OPEN — DI — DSI-ZSO-XXX

OPEN SOLENOID — DO — DSI-SV-XXX

LIW FEEDER 2
INLET VALVE

LIMIT SWITCH CLOSED — DI — DSI-ZSC-XXX

LIMIT SWITCH OPEN — DI — DSI-ZSO-XXX

OPEN SOLENOID — DO — DSI-SV-XXX

DSI-PI-XXX — 1/4" — DSI-PRV-XXX — SET @ 30 PSI — 1/2"

A — 1"

DSI-PI-XXX — 1/4" — 1/2"

DSI-PI-XXX — 1/4" — 1/2"

DSI-RV-XXX — SET @ 15 PSIG

DSI-VLV-XXX

DSI-PRV-XXX — SET @ 10 PSIG

1" — DSI-VLV-XXX — 1" — FLUIDIZING BIN BOTTOM AIR FROM DAY BIN AIR HEADER 9222A-4-005

1" — FC

1/2"

DSI-VLV-XXX — DSI-SV-XXX — DO — AIR PAD BOTTOM

DSI-VLV-XXX — E — 3/8" — 1/2" — F — DSI-F-XXX

DSI-VLV-XXX — 3/8" — D

DSI-VLV-XXX — 3/8" — C

DSI-VLV-XXX — 3/8" — B

DAY BIN DISCHARGE
AIR CONTROL PANEL

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	19NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	24SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

PIPING AND INSTRUMENT DIAGRAM
BIN DISCHARGE
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER–DESERT VIEW

DRAWN BY M. BOSIO — DATE 19.Aug.15 — CATALOG NO.

DESIGN BY M. BOSIO — SCALE NONE

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DRAWING NO.
9222A–4–006

LIW FEEDER 02 AIR FROM DAY BIN HEADER 9222A-4-005

LIW FEEDER 01 AIR FROM DAY BIN HEADER 9222A-4-005

DISCHARGE LINE 2 FROM DAY BIN 9222A-4-006

DISCHARGE LINE 1 FROM DAY BIN 9222A-4-006

VENT HOPPER 01 AIR FROM DAY BIN HEADER 9222A-4-005

VENT HOPPER 02 AIR FROM DAY BIN HEADER 9222A-4-005

DIFFERENTIAL PRESSURE INDICATING TRANSMITTER TYP. (4)

TO ATMOSPHERE TYP. (4)

VENTED TO ATMOSPHERE TYP. (8)

LIW FEEDER 1
DSI-FDR-XXX

RELIEVED TO ATMOSPHERE TYP. (8)

PULSE SOLENOID

DROP-THRU AIRLOCK BEARING PURGE

DROP-THRU AIRLOCK POCKET PURGE

LIW FEEDER 2
DSI-FDR-XXX

START
RUNNING
FAULTED
SPEED COMMAND
SPEED FEEDBACK

GROSS LBS.
RATE OF CHANGE
WEIGH CONTROLLER

VFD

ZERO SPEED SWITCH

FROM PRESSURE BLOWER 1 9222A-4-004

FROM PRESSURE BLOWER 2 9222A-4-004

TO UNIT 1 GRAVITY SPLITTER 9222A-4-008

TO UNIT 2 GRAVITY SPLITTER 9222A-4-008

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	19NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	24SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

PIPING AND INSTRUMENT DIAGRAM
LIW FEEDERS 1 & 2
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO | DATE 19.Aug.15 | CATALOG NO.
DESIGN BY M. BOSIO | SCALE NONE

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DRAWING NO. 9222A-4-007

FROM DROP THRU AIRLOCK 1 9222A-4-007

3"

FROM DROP THRU AIRLOCK 2 9222A-4-007

3"

FROM COMPRESSED AIR SUPPLY 9222A-4-005

1/2"

AI — DSI-PT-XXX — DSI-PI-XXX — 3/8" TYP. (8)

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — A

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — B

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — C

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — D

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — E

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — F

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — G

DSI-VLV-XXX — 1/2" — DSI-VLV-XXX — H

UNIT 2 SPLITTER

1-1/2" — DSI-VLV-XXX — 3/8" A

1-1/2" — DSI-VLV-XXX — 3/8" B

1-1/2" — DSI-VLV-XXX — 3/8" C

1-1/2" — DSI-VLV-XXX — 3/8" D

2A 2B 2C 2D

UNIT 2 DUCT

UNIT 1 SPLITTER

1-1/2" — DSI-VLV-XXX — 3/8" E

1-1/2" — DSI-VLV-XXX — 3/8" F

1-1/2" — DSI-VLV-XXX — 3/8" G

1-1/2" — DSI-VLV-XXX — 3/8" H

1A 1B 1C 1D

UNIT 1 DUCT

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	19NOV15	ISSUED FOR CONSTRUCTION	MJB	MJB
B	24SEP15	ISSUED FOR APPROVAL	MJB	MJB
A	31AUG15	ISSUED FOR PRELIMINARY REVIEW	MJB	MJB

PIPING AND INSTRUMENT DIAGRAM
INJECTION LANCES
DRY SORBENT INJECTION SYSTEM
GREENLEAF POWER-DESERT VIEW

DRAWN BY M. BOSIO — DATE 19.Aug.15 — CATALOG NO.
DESIGN BY M. BOSIO — SCALE NONE

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DRAWING NO. 9222A-4-008

Section A3. Electrical Drawings

Revision Date

A3.1 Drawings, Electrical Installation Arrangement – 9222A-7

DESERT VIEW POWER

UNIT A & B

MECCA, CA

DSI SYSTEM

NOL-TEC JOB 9222A

NOL-TEC SYSTEMS INC.

SYSTEM LETTERS COVERED UNDER THIS DRAWING PACKAGE

SYSTEM LETTER	JOB NUMBER	DESCRIPTION OF THE SYSTEM
A	4723	DSI SYSTEM

REV	DATE	REVISION NOTE	DRAWN	DESIGN			
					CONTROL SYSTEM		
					COVER SHEET		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-001

NOTES & SYMBOLS

- EMERGENCY STOP PUSH BUTTON
- SELECTOR SWITCH
- NORMALLY OPEN PUSH BUTTON
- NORMALLY CLOSED PUSH BUTTON
- ALARM HORN
- PILOT LIGHT
  A = AMBER R = RED
  B = BLUE W = WHITE
  C = CLEAR Y = YELLOW
  G = GREEN
- CIRCUIT BREAKER
- FUSE
- CONTROL RELAY / MOTOR STARTER
- DUST FILTER TIMER BOARD
- ZERO SPEED SWITCH
- NORMALLY OPEN PROXIMITY SWITCH
- SOLENOID
- NORMALLY OPEN LIMIT SWICH
- NORMALLY CLOSED LIMIT SWITCH
- NORMALLY OPEN PRESSURE SWITCH
- NORMALLY CLOSED PRESSURE SWITCH
- NORMALLY OPEN CONTACT SWITCH
- NORMALLY CLOSED CONTACT SWITCH
- NORMALLY OPEN TIMER CONTACT SWITCH DELAYED OPENING AFTER DE- ENERGIZED
- NORMALLY CLOSED TIMER CONTACT SWITCH DELAYED OPENING AFTER DE- ENERGIZED
- NORMALLY OPEN TIMER CONTACT SWITCH DELAYED OPENING AFTER ENERGIZED
- NORMALLY CLOSED TIMER CONTACT SWITCH DELAYED OPENING AFTER ENERGIZED
- NORMALLY OPEN TEMPERATURE SWITCH
- NORMALLY CLOSED TEMPERATURE SWITCH
- NORMALLY OPEN FLOW SWITCH
- NORMALLY CLOSED FLOW SWITCH
- GROUND
- PLUG/CORD CONNECTION

WIRING NOTES:

1) ALL CONTROL WIRING TO BE RED 16 AWG MTW MINIMUM.
2) NEUTRAL TO BE WHITE 16 AWG MTW MINIMUM.
3) GROUND WIRING TO BE GREEN 16 AWG MTW MINIMUM.
4) DC WIRING TO BE BLUE 16 AWG MTW MINIMUM.
5) DC COMMON TO BE WHITE /w BLUE STRIPE 16 AWG MTW MINIMUM.
6) DUAL SOURCE VOLTAGES TO PANEL TO BE YELLOW 16 AWG MTW MINIMUM.
7) MOTOR WIRING TO BE BLACK 12 AWG MTW MINIMUM.
8) 2-WIRE ANALOG CABLING TO BE BELDEN 8761 OR EQUIVALENT.
9) 4-WIRE ANALOG CABLING TO BE BELDEN 8723 OR EQUIVALENT.
10) LOAD CELL SIGNAL CABLING TO BE 6 CONDUCTOR RICE LAKE SURVIVOR EL147HE OR EQUIVALENT.
11) C2 LOAD CELL SIGNAL CABLING TO BE 8 CONDUCTOR HARDY 6020-001/C2 CERTIFIED OR EQUIVALENT.
12) ALLEN BRADLEY CONTROL NET CABLE TO BE BELDEN 3092A COAX OR EQUIVALENT.
13) ETHERNET CABLING TO BE CAT 5e PLENUM RATED.
14) ALLEN BRADLEY DH+/RIO CABLING TO BE BELDEN 9463 (BLUE HOSE) OR EQUIVALENT.
15) SUPPLIED BY OTHERS.

TERMINAL NOTES:

□-DENOTES TERMINALS IN CONTROL ENCLOSURE.
◪-DENOTES TERMINALS LOCATED IN REMOTE JUNCTION ENCLOSURE.
- - - -DENOTES FIELD WIRING TO BE COMPLETED BY OTHERS.
——— -DENOTES WIRING COMPLETED BY NOL-TEC SYSTEMS INC.

XXX-XX-FIRST 3 DIGITS EQUALS THE PAGE & THE NEXT 2 DIGITS EQUALS THE ROW.

EXAMPLE: 015-06 WHERE 015 IS THE PAGE AND 06 IS THE ROW ON THAT PAGE.

AUX01506 COIL ID
XXX-XX COIL LOCATION

A - AMP
CB - CIRCUIT BREAKER
CP - CONTROL PANEL
CR - CONTROL RELAY
ES - EMERGENCY STOP PUSH BUTTON
FLA - FULL LOAD AMPS
FS - FLOW SWITCH
FU - FUSE
GND - GROUND
HP - HORSEPOWER
JB - JUNCTION BOX
LSHH - LEVEL CONTROL EMERGENCY HIGH
LSH - LEVEL CONTROL HIGH
LSM - LEVEL CONTROL MID
LSL - LEVEL CONTROL LOW
MCR - MASTER CONTROL RELAY
MS - MOTOR STARTER
PB - PUSH BUTTON
PL - PILOT LIGHT
PSH - PRESSURE SWITCH HIGH
PSL - PRESSURE SWITCH LOW
PDS - PRESSURE DIFFERENTIAL SWITCH
PROX - PROXIMITY SWITCH
PT - PRESSURE TRANSDUCER
SS - SELECTOR SWITCH
TS - TEMPERATURE SWITCH
TMR - TIMER SWITCH
VFD - VARIABLE FREQUENCY DRIVE
XV - SOLENOID
ZSO - LIMIT SWITCH OPEN
ZSC - LIMIT SWITCH CLOSED
ZSS - ZERO SPEED SWITCH

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CONTROL SYSTEM
NOTES & SYMBOLS
DESERT VIEW POWER UNIT A & B
MECCA, CA

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DRAWN BY J. ELLWEIN | DATE 06.Aug.15 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

DRAWING NO. 9222A-7-002

DRAWING NUMBER	DESCRIPTION
9222A-7 - 001	CONTROL SYSTEM - COVER SHEET
9222A-7 - 002	CONTROL SYSTEM - NOTES & SYMBOLS
9222A-7 - 003	CONTROL SYSTEM - DRAWING INDEX
9222A-7 - 004	CONTROL SYSTEM - DRAWING INDEX
9222A-7 - 005	SPARE DRAWINGS (SHEETS 5-9)
9222A-7 - 006	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 007	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 008	SPARE DRAWING - PAGE NOT IN DRAWING SET
9222A-7 - 009	SPARE DRAWING - PAGE NOT IN DRAWING SET
9222A-7 - 010	MAIN CONTROL PANEL - ONE-LINE DIAGRAM
9222A-7 - 011	MAIN CONTROL PANEL - ONE-LINE DIAGRAM
9222A-7 - 012	SPARE DRAWINGS (SHEETS 12-14)
9222A-7 - 013	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 014	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 015	CONTROL SYSTEM - ETHERNET ARCHITECTURE
9222A-7 - 016	SPARE DRAWINGS (SHEETS 16-19)
9222A-7 - 017	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 018	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 019	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 020	CP020 MOTOR CONTROL PANEL - PANEL LAYOUT
9222A-7 - 021	CP020 MOTOR CONTROL PANEL - BACKPANEL LAYOUT
9222A-7 - 022	CP020 MOTOR CONTROL PANEL - BILL OF MATERIAL
9222A-7 - 023	CP020 MOTOR CONTROL PANEL - TERMINAL LAYOUT & LEGENDS
9222A-7 - 024	CP020 MOTOR CONTROL PANEL - 480VAC POWER DISTRIBUTION
9222A-7 - 025	CP020 MOTOR CONTROL PANEL - 480VAC POWER DISTRIBUTION
9222A-7 - 026	CP020 MOTOR CONTROL PANEL - 480VAC POWER DISTRIBUTION
9222A-7 - 027	SPARE DRAWING
9222A-7 - 028	CP020 MOTOR CONTROL PANEL - 120VAC & 24VDC POWER DISTRIBUTION
9222A-7 - 029	SPARE DRAWING
9222A-7 - 030	CP030 PLC CONTROL PANEL - PANEL LAYOUT
9222A-7 - 031	CP030 PLC CONTROL PANEL - BACKPANEL LAYOUT
9222A-7 - 032	CP030 PLC CONTROL PANEL - BILL OF MATERIAL
9222A-7 - 033	CP030 PLC CONTROL PANEL - TERMINAL LAYOUT & LEGENDS
9222A-7 - 034	CP030 PLC CONTROL PANEL - 24VDC POWER DISTRIBUTION
9222A-7 - 035	SPARE DRAWINGS (SHEETS 35-39)
9222A-7 - 036	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 037	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 038	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 039	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 040	CP030 PLC CONTROL PANEL - I/O WIRING DIAGRAM MODULE 0 & 1
9222A-7 - 041	CP030 PLC CONTROL PANEL - I/O WIRING DIAGRAM MODULE 2 & 3
9222A-7 - 042	CP030 PLC CONTROL PANEL - I/O WIRING DIAGRAM MODULE 4 & 5
9222A-7 - 043	CP030 PLC CONTROL PANEL - I/O WIRING DIAGRAM MODULE 6
9222A-7 - 044	CP030 PLC CONTROL PANEL - I/O WIRING DIAGRAM MODULE 7 & 8
9222A-7 - 045	CP030 PLC CONTROL PANEL - I/O WIRING DIAGRAM MODULE 9 & 10
9222A-7 - 046	CP030 PLC CONTROL PANEL - I/O WIRING DIAGRAM MODULE ETHERNET
9222A-7 - 047	SPARE DRAWINGS (SHEETS 47-49)
9222A-7 - 048	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 049	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 050	CP050 PIG REMOTE I/O PANEL - PANEL & BACKPANEL LAYOUT
9222A-7 - 051	CP050 PIG REMOTE I/O PANEL - BILL OF MATERIAL

DRAWING NUMBER	DESCRIPTION
9222A-7 - 052	CP050 PIG REMOTE I/O PANEL - TERMINAL LAYOUT & LEGENDS
9222A-7 - 053	CP050 PIG REMOTE I/O PANEL - 24VDC POWER SUPPLY
9222A-7 - 054	SPARE DRAWING (SHEET 54)
9222A-7 - 055	CP050 PIG REMOTE I/O PANEL - I/O WIRING DIAGRAM MODULE 0 & 1
9222A-7 - 056	CP050 PIG REMOTE I/O PANEL - I/O WIRING DIAGRAM MODULE 2 & 3
9222A-7 - 057	SPARE DRAWINGS (SHEETS 57-59)
9222A-7 - 058	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 059	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 060	INJECTION BLOWER 1 - FIELD DISCONNECT FD060
9222A-7 - 061	INJECTION BLOWER 2 - FIELD DISCONNECT FD061
9222A-7 - 062	PIG UNLOAD BLOWER - FIELD DISCONNECT FD062
9222A-7 - 063	LIW HOPPER 1 FEEDER SCREW - FIELD DISCONNECT FD063
9222A-7 - 064	LIW HOPPER 2 FEEDER SCREW - FIELD DISCONNECT FD064
9222A-7 - 065	HEAT EXCHANGER 1 - FIELD DISCONNECT FD065
9222A-7 - 066	HEAT EXCHANGER 2 - FIELD DISCONNECT FD066
9222A-7 - 067	LIW HOPPER 1 AGITATOR - FIELD DISCONNECT FD067
9222A-7 - 068	LIW HOPPER 2 AGITATOR - FIELD DISCONNECT FD068
9222A-7 - 069	LIW HOPPER 1 VENT HOPPER AIRLOCK - FIELD DISCONNECT FD069
9222A-7 - 070	LIW HOPPER 2 VENT HOPPER AIRLOCK - FIELD DISCONNECT FD070
9222A-7 - 071	DUST FILTER EXHAUST BLOWER - FIELD DISCONNECT FD071
9222A-7 - 072	SPARE DRAWINGS (SHEETS 072-79)
9222A-7 - 073	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 074	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 075	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 076	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 077	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 078	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 079	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 080	PIG HOPPER - FIELD WIRING
9222A-7 - 081	BLOWER/HEAT EXCHANGERS - FIELD WIRING
9222A-7 - 082	DAY BIN - FIELD WIRING
9222A-7 - 083	DAY BIN - FIELD WIRING
9222A-7 - 084	DAY BIN LINE 1 - FIELD WIRING
9222A-7 - 085	DAY BIN LINE 2 - FIELD WIRING
9222A-7 - 086	SPARE DRAWINGS (SHEETS 086-94)
9222A-7 - 087	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 088	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 089	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 090	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 091	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 092	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 093	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 094	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 095	DAY BIN ELEVATION - FIELD WIRING
9222A-7 - 096	DAY BIN ELEVATION - FIELD WIRING
9222A-7 - 097	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 098	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 099	SPARE DRAWING - SHEET NOT IN DRAWING SET

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CONTROL SYSTEM
DRAWING INDEX
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.15 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

NOL-TEC SYSTEMS Lino Lakes, MN • USA
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DRAWING NO.
9222A-7-003

DRAWING NUMBER	DESCRIPTION
9222A-7 - 100	JB100 LIW HOPPER 1 DIFFERENTIAL J-BOX - PANEL & BACKPANEL LAYOUT
9222A-7 - 101	JB100 LIW HOPPER 1 DIFFERENTIAL J-BOX - BILL OF MATERIAL, TERMINAL LAYOUT & LEGEND
9222A-7 - 102	JB100 LIW HOPPER 1 DIFFERENTIAL J-BOX - WIRING DIAGRAM
9222A-7 - 103	SPARE DRAWINGS - (SHEETS 103-104)
9222A-7 - 104	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 105	JB105 LIW VENT HOPPER 1 DIFFERENTIAL J-BOX - PANEL & BACKPANEL LAYOUT
9222A-7 - 106	JB105 LIW VENT HOPPER 1 DIFFERENTIAL J-BOX - BILL OF MATERIAL, TERMINAL LAYOUT & LEGEND
9222A-7 - 107	JB105 LIW VENT HOPPER 1 DIFFERENTIAL J-BOX - WIRING DIAGRAM
9222A-7 - 108	SPARE DRAWINGS - (SHEETS 108-109)
9222A-7 - 109	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 110	JB110 LIW HOPPER 2 DIFFERENTIAL J-BOX - PANEL & BACKPANEL LAYOUT
9222A-7 - 111	JB110 LIW HOPPER 2 DIFFERENTIAL J-BOX - BILL OF MATERIAL, TERMINAL LAYOUT & LEGEND
9222A-7 - 112	JB110 LIW HOPPER 2 DIFFERENTIAL J-BOX - WIRING DIAGRAM
9222A-7 - 113	SPARE DRAWINGS - (SHEETS 113-114)
9222A-7 - 114	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 115	JB115 LIW VENT HOPPER 2 DIFFERENTIAL J-BOX - PANEL & BACKPANEL LAYOUT
9222A-7 - 116	JB115 LIW VENT HOPPER 2 DIFFERENTIAL J-BOX - BILL OF MATERIAL, TERMINAL LAYOUT & LEGEND
9222A-7 - 117	JB115 LIW VENT HOPPER 2 DIFFERENTIAL J-BOX - WIRING DIAGRAM
9222A-7 - 118	SPARE DRAWINGS - (SHEETS 118-119)
9222A-7 - 119	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 120	JB120 SILO AIR PAD DISTRIBUTOR J-BOX - PANEL & BACKPANEL LAYOUT
9222A-7 - 121	JB120 SILO AIR PAD DISTRIBUTOR J-BOX - BILL OF MATERIAL, TERMINAL LAYOUT & LEGEND
9222A-7 - 122	JB120 SILO AIR PAD DISTRIBUTOR J-BOX - WIRING DIAGRAM
9222A-7 - 123	SPARE DRAWINGS - (SHEETS 123-198)
9222A-7 - 124	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 125	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 126	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 127	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 128	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 129	SPARE DRAWING - SHEET NOT IN DRAWING SET
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9222A-7 - 139	SPARE DRAWING - SHEET NOT IN DRAWING SET
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9222A-7 - 149	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 150	SPARE DRAWING - SHEET NOT IN DRAWING SET

DRAWING NUMBER	DESCRIPTION
9222A-7 - 151	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 152	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 153	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 154	SPARE DRAWING - SHEET NOT IN DRAWING SET
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9222A-7 - 197	SPARE DRAWING - SHEET NOT IN DRAWING SET
9222A-7 - 198	SPARE DRAWING - SHEET NOT IN DRAWING SET

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CONTROL SYSTEM
DRAWING INDEX
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 02.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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DRAWING NO.
9222A-7-004

SHEETS 05-09 ARE RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-004

480VAC, 3 PH
400A
FROM 480VAC SUBSTATION 1A1
BUCKET 4A

DSIMCP020
DSI MAIN CONTROL PANEL

3P
400AT

MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	MPCB	CB	CB	CB
3P 6AT	3P 34AT	3P 34AT	3P 34AT	3P 4AT	3P 4AT	3P 4AT	3P 4AT	3P 4AT	3P 4AT	3P 4AT	3P 4AT	3P 4AT	2P 5AT	2P 5AT	3P 2.5AT
CONTACTOR				CONTACTOR	CONTACTOR			CONTACTOR				CONTACTOR			
OL RELAY 3.2-16.0A				OL RELAY 1.0-5.0A	OL RELAY 1.0-5.0A			OL RELAY 1.0-5.0A				OL RELAY 1.0-5.0A			
	VFD	VFD	VFD			VFD	VFD		VFD	VFD					
3/C W/ GND 10AWG	3/C W/ GND 8AWG	3/C W/ GND 8AWG	3/C W/ GND 8AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG	3/C W/ GND 10AWG			
DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P	DISC. 3P			
3HP	20HP	20HP	20HP	1HP	1HP	.5HP	.5HP	.75HP	.5HP	.5HP	.75HP				
DUST FILTER EXHAUST BLOWER 4.8 FLA (REF. SHT. 26)	INJECTION BLOWER 1 27.0 FLA (REF. SHT. 24)	INJECTION BLOWER 2 27.0 FLA (REF. SHT. 24)	PIG UNLOAD BLOWER 27.0 FLA (REF. SHT. 24)	HEAT EXCHANGER 1 2.1 FLA (REF. SHT. 25)	HEAT EXCHANGER 2 2.1 FLA (REF. SHT. 25)	LIW HOPPER 1 FEED SCREW 1.1 FLA (REF. SHT. 24)	LIW HOPPER 1 AGITATOR 1.1 FLA (REF. SHT. 25)	LIW HOPPER 1 VENT HOPPER AIRLOCK 1.6 FLA (REF. SHT. 26)	LIW HOPPER 2 FEED SCREW 1.1 FLA (REF. SHT. 24)	LIW HOPPER 2 AGITATOR 1.1 FLA (REF. SHT. 25)	LIW HOPPER 2 VENT HOPPER AIRLOCK 1.6 FLA (REF. SHT. 26)	MAIN CONTROL PANEL HVAC 1.8 FLA (REF. SHT. 26)	PLC CONTROL PANEL HVAC .93 FLA (REF. SHT. 26)	24VDC CONTROL POWER SUPPLY 1.0 FLA (REF. SHT. 26)	

LEGEND

- VFD - VARIABLE FREQUENCY DRIVE
- CB - CIRCUIT BREAKER
- HMCP - MOTOR CIRCUIT PROTECTOR
- MS - MAINTENANCE SWITCH
- MPCB - MOTOR PROTECTION CIRCUIT BREAKER
- CIRCUIT BREAKER (SIZE AS SHOWN)
- FUSE (SIZE AS SHOWN)

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

MAIN CONTROL PANEL
ONE-LINE DIAGRAM
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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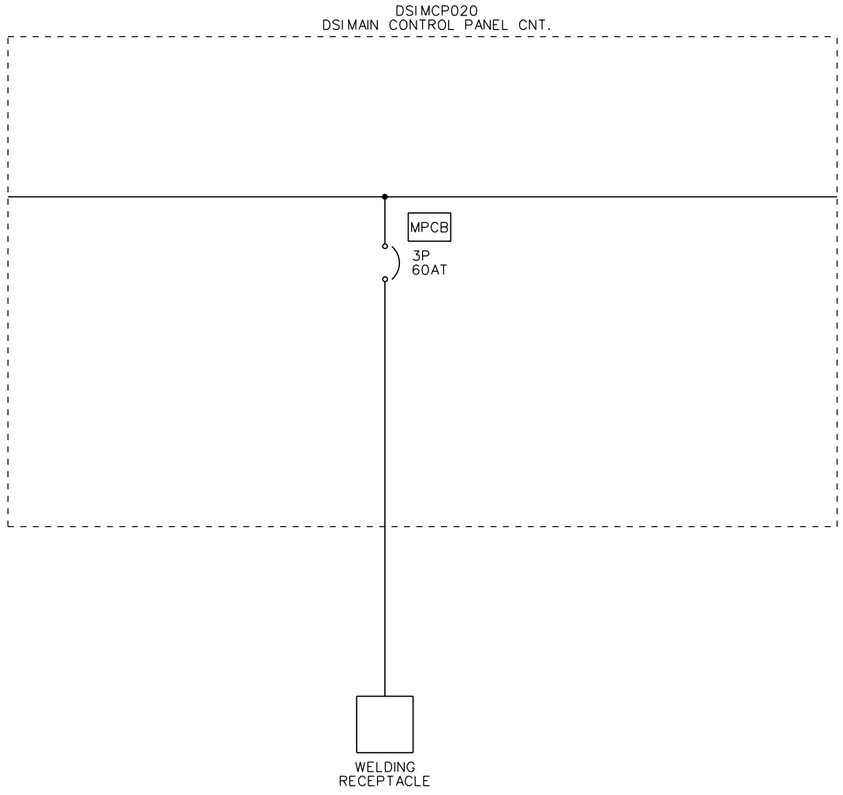
(651) 780-8600
9207

DRAWING NO.
9222A-7-010



LEGEND

- VFD - VARIABLE FREQUENCY DRIVE
- CB - CIRCUIT BREAKER
- HMCP - MOTOR CIRCUIT PROTECTOR
- MS - MAINTENANCE SWITCH
- MPCB - MOTOR PROTECTION CIRCUIT BREAKER
- CIRCUIT BREAKER (SIZE AS SHOWN)
- FUSE (SIZE AS SHOWN)

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

MAIN CONTROL PANEL
ONE-LINE DIAGRAM
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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DRAWING NO.
9222A-7-011

SHEETS 12-14 ARE RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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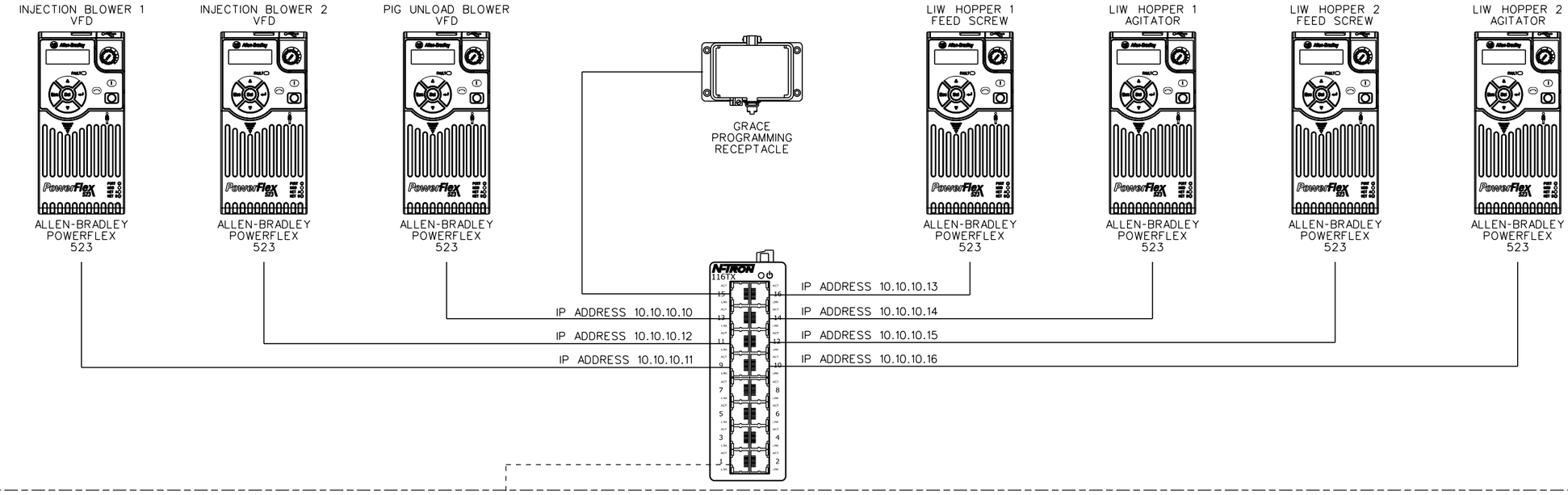
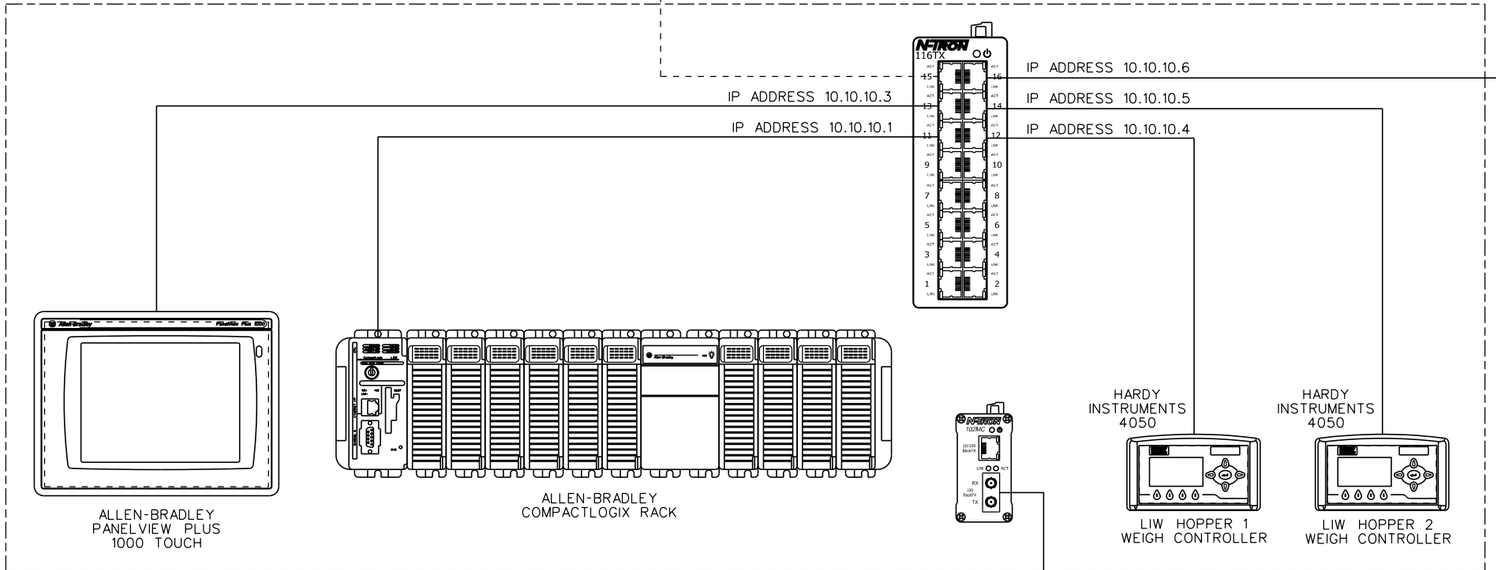
DRAWING NO. 9222A-7-012

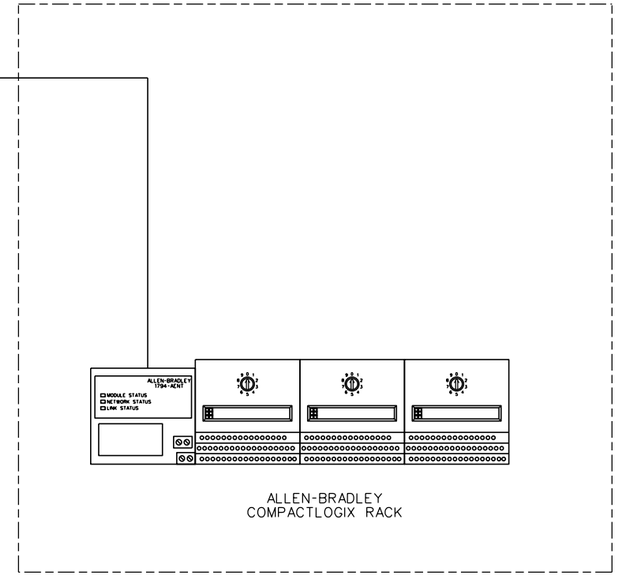
CP020 MOTOR CONTROL PANEL



CP030 MAIN PLC PANEL



CP050 PIG REMOTE I/O PANEL



REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CONTROL SYSTEM
ETHERNET ARCHITECTURE
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.15
DESIGN BY J. BROWN | SCALE NONE
CATALOG NO.

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DRAWING NO. 9222A-7-015

SHEETS 16-19 ARE RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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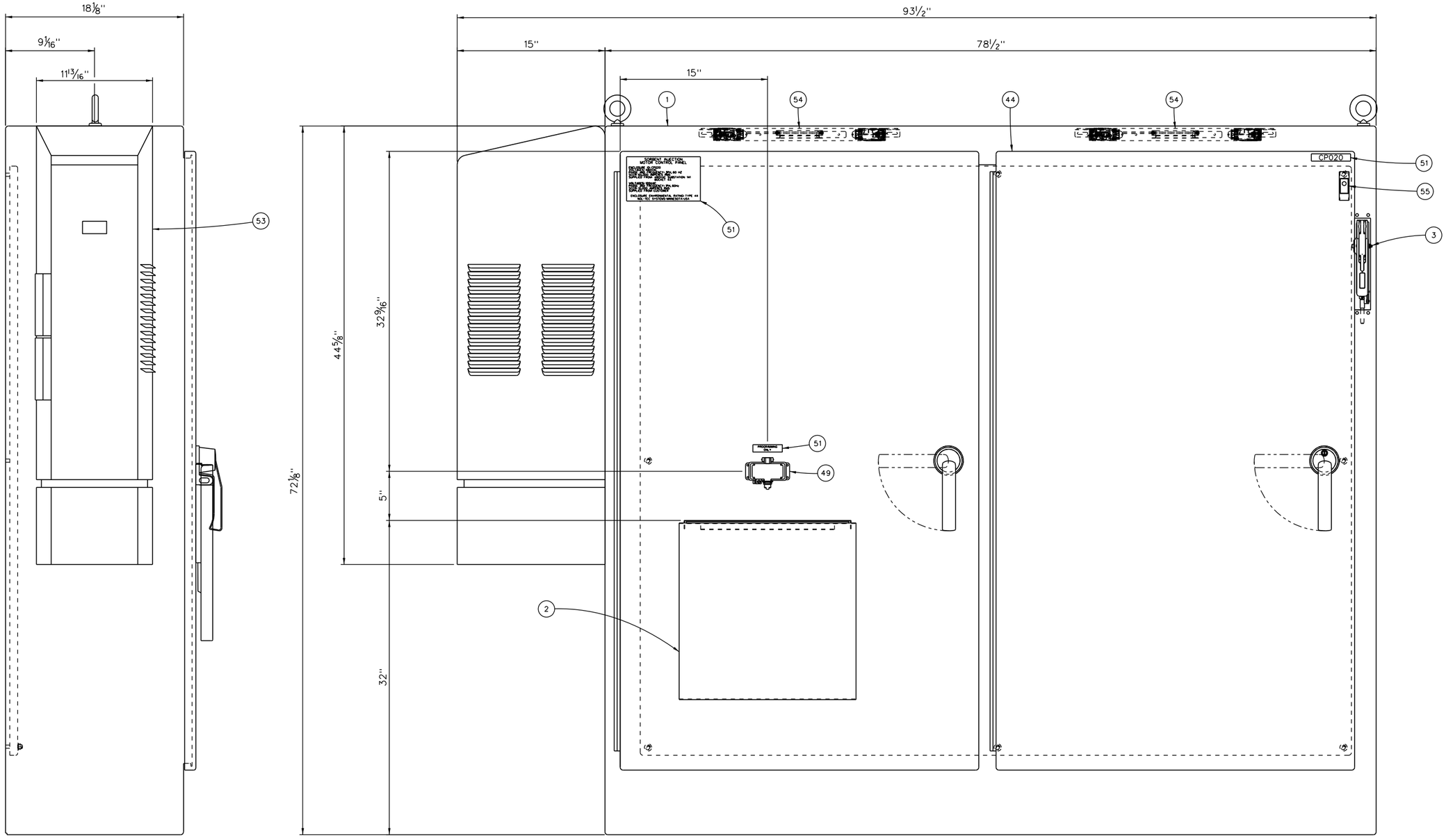
DRAWING NO.
9222A-7-016



ENCLOSURE:
NEMA 4X
HOFFMAN A72XM7818SSN4
72.12"H x 78.50"W x 18.12"D
SUBPANEL:
HOFFMAN A72PM78
60.00"H x 72.00"W

(3) LEGEND REFERENCE - REF. 9222A-7-023 FOR LEGEND DESCRIPTION

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP020 MOTOR CONTROL PANEL
PANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.15 | CATALOG NO. 67603
DESIGN BY J. BROWN | SCALE 3/16"=1"

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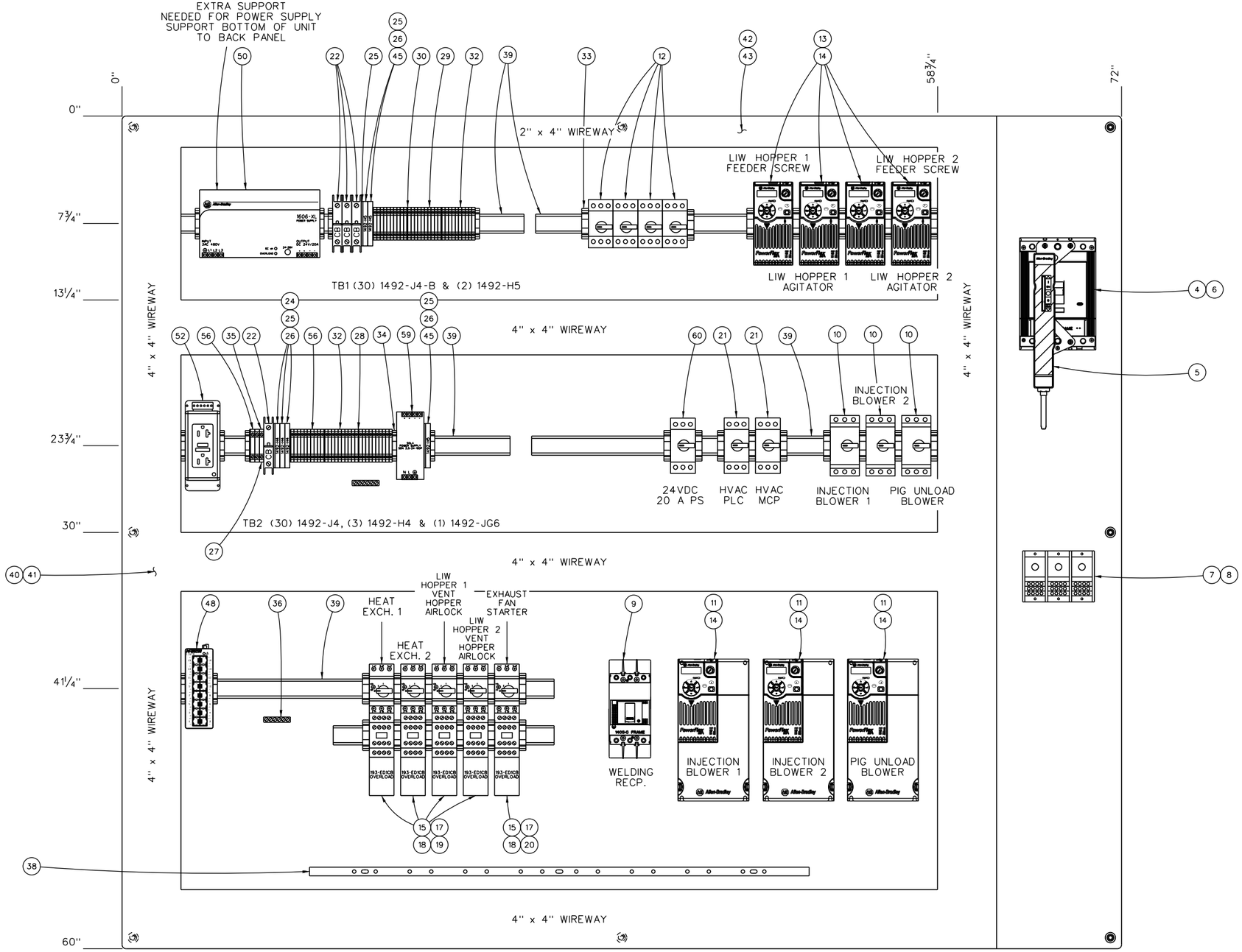
DRAWING NO. 9222A-7-020



ENCLOSURE:
NEMA 4X
HOFFMAN A72XM7818SSN4
72.12"H x 78.50"W x 18.12"D
SUBPANEL:
HOFFMAN A72PM78
60.00"H x 72.00"W

					CP020 MOTOR CONTROL PANEL		
					BACKPANEL LAYOUT		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO. 67603
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE 1/4"=1"	DRAWING NO. 9222A-7-021

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NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG •67603					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	MANUFACTURERS PART No.	NOLTEC No.
1	1	ENCLOSURE, NEMA 12, 72.00" x 78.00" x 18.00" W/ 60.00" x 72.00" BACKPANEL	HOFFMAN	A72XM7818SSN4	31050
2	1	SHELF, FOLDING, 18.00" x 18.00"	HOFFMAN	AASHLF1818	13922
3	1	OPERATOR ADAPTER FOR HOFFMAN ENCLOSURE	ALLEN-BRADLEY	ABS	67536
4	1	140G-MOLDED CASE CIRCUIT BREAKER, K FRAME, 65 kA, T/M-THERMAL MAGNETIC, RATED CURRENT 400 A	ALLEN-BRADLEY	140G-K6F3-D40	67534
5	1	140G FLEX-CABLE MECHANISM, STAINLESS STEEL FLANGE HANDLE, 4 FT	ALLEN-BRADLEY	140G-K-FCS04	67535
6	2	FRAME-K, TERMINAL LUG, QTY 3, FCCuAL 1x250-500(120-240)	ALLEN-BRADLEY	140G-K-TLA1A3	67606
7	1	POWER DISTRIBUTION BLOCK, 420 A, 3 POLE LINE (1) 600MCM, LOAD (12) 4-14	BUSSMANN	163375-3	33945
8	2	POWER DISTRIBUTION BLOCK, COVER, 3 POLE FOR 163 SERIES	BUSSMANN	CPDB-3	33943
9	1	CIRCUIT BREAKER, 3 POLE, 60 AT, 65KA THERMAL MAGNETIC, G-FRAME	ALLEN-BRADLEY	140G-G6C3-C60	64808
10	3	CIRCUIT BREAKER, MOTOR PROTECTION, 32 - 45 AMPS	ALLEN-BRADLEY	140M-F8E-C45	36769
11	3	VFD DRIVE, 480VAC, 3 PHASE, 20 HP, POWERFLEX 523	ALLEN-BRADLEY	25A-D030N104	67607
12	4	CIRCUIT BREAKER, MOTOR PROTECTION, 4.0 - 6.3 AMPS	ALLEN-BRADLEY	140M-C2E-B63	36115
13	4	VFD DRIVE, 480VAC, 3 PHASE, 2 HP, POWERFLEX 523	ALLEN-BRADLEY	25A-D4P0N104	67608
14	7	COMMUNICATION MODULE, POWERFLEX 525, ETHERNET/IP COMMUNICATIONS ADAPTER	ALLEN-BRADLEY	25-COMM-E2P	60996
15	4	CIRCUIT BREAKER, MOTOR PROTECTION, 2.5 - 4.0 AMPS	ALLEN-BRADLEY	140M-C2E-B40	39569
16	1	CIRCUIT BREAKER, MOTOR PROTECTION, 4.0 - 6.3 AMPS	ALLEN-BRADLEY	140M-C2E-B63	36115
17	5	MOTOR CIRCUIT PROTECTOR, AUXILIARY, FRONT MOUNT, CONTACT 1 NO, 1 NC	ALLEN-BRADLEY	140M-C-AFA11	42411
18	5	CONTACTOR, 3 POLE, 1 NO AUX CONTACT, NON-REVERSING, 24VDC, COIL, 9 AMP	ALLEN-BRADLEY	100-C09EJ10	48169
19	4	RELAY, OVERLOAD, 1-5 AMP, SOLID STATE AUTO/MAN RESET	ALLEN-BRADLEY	193-EECB	45044
20	1	RELAY, OVERLOAD, 3.2-16 AMP, SOLID STATE AUTO/MAN RESET	ALLEN-BRADLEY	193-EEDB	53622
21	2	CIRCUIT BREAKER, 2 POLE, 5 AMP, THERMAL MAGNETIC	ALLEN-BRADLEY	140U-D6D2-B50	67610
22	3	CIRCUIT BREAKER 1 POLE, 20 AMP DIN, C-TRIP	ALLEN-BRADLEY	1489-M1C200	61533
23	1	CIRCUIT BREAKER, 1 POLE, 10 AMP DIN, C-TRIP	ALLEN-BRADLEY	1489-M1C100	63393
24	3	TERMINAL BLOCK, FUSIBLE W/NEON IND 100-300VAC	ALLEN-BRADLEY	1492-H4	15105
25	3	END BARRIER, (1492-H4 THRU H7)	ALLEN-BRADLEY	1492-N37	10289
26	6	FUSE, 250V, 5 AMP, CERAMIC, FAST ACTING	BUSSMANN	ABC-5	32614
27	1	TERMINAL BLOCK, 600 V, 50 A, GRAY	ALLEN-BRADLEY	1492-J6	41154
28	4	END BARRIER (USED ON 1492-J3, J4, J6 & J10) GRAY	ALLEN-BRADLEY	1492-EBJ3	41900
29	30	TERMINAL BLOCK, 22-12 AWG, 600 V, BLUE	ALLEN-BRADLEY	1492-J4-B	41772
30	3	END BARRIER (USED ON 1492-J3, J4, J6 & J10), BLUE	ALLEN-BRADLEY	1492-EBJ3-B	45134
32	4	JUMPER BAR, CENTER, 10 POLE, FOR 1492-J4	ALLEN-BRADLEY	1492-CJJ6-10	41906
33	35	END ANCHOR, DIN RAIL, HEAVY DUTY	ALLEN-BRADLEY	1492-EAHJ35	41899
34	9	END ANCHOR, DIN RAIL, J-SERIES, STANDARD DUTY	ALLEN-BRADLEY	1492-EAJ35	42412
35	1	TERMINAL BLOCK, GROUNDING	ALLEN-BRADLEY	1492-JG6	41904
36	2	GROUND BAR	CUTLER-HAMMER	GBK5	10404
37	1	GROUND BAR, VERTICLE RACK BUS BAR 0.25" X 0.62" X 36" W/ PRE PUNCHED HOLES	STORM COPPER	SCGB-R62-36	49825
39	192"	DIN RAIL	ALLEN-BRADLEY	199-DR1	10220
40	216"	WIRE DUCT, 4" WD X 4" DEEP, WHT	THOMAS & BETTS	TY4X4NPW6	43650
41	216"	WIRE DUCT, COVER, 4" WD, WHT	THOMAS & BETTS	TY4CPW6	43654
42	360"	WIRE DUCT, 2" WD X 4" DEEP, WHT	THOMAS & BETTS	TY2X4NPW6	43647
43	360"	WIRE DUCT, COVER, 2" WD, WHT	THOMAS & BETTS	TY2CPW6	43652
44	2	ENCLOSURE, DOOR STOP KIT, FOR LARGE ENCLOSURES	HOFFMAN	ALGDSTOP2	48275
45	2	TERMINAL BLOCK, FUSIBLE W/ LED INDICAOTR, 10-57V AC/DC	ALLEN-BRADLEY	1492-H5	24557
48	1	ETHERNET SWITCH, 16 10/100 MBT PORTS RJ45 CONNECTORS, 24VDC SUPPLY, DIN MOUNT	N-TRON	116TX	54459
49	1	RECEPTACLE, 120VAC, GFI, W/ETHERNET 10/100 RJ45	GRACE ENGINEERING	P-R33-M2RF0	32608
50	1	POWER SUPPLY, THREE PHASE INPUT, 24VDC SECONDARY, 20 AMP, 480 WATTS	ALLEN-BRADLEY	1606-XL480E-3	50975
51	7	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND	64382
52	1	SURGE SUPPRESSOR, 120 VAC, 20 AMP, DUPLEX OUTLET INCLUDED	TRANSTECTOR SYSTEMS	ACP-100-DR2-20A	50783
53	1	AIR CONDITIONER, 6000 BTUH, 480VAC/1.8 AMP, W/ MALFUNCTION SWITCH, RAZOR SERIES	ISC SALES	RZ-06A-486-4X	67616
54	2	LIGHT, ENCLOSURE, LED, 120VAC, ON/OFF SWITCH	HOFFMAN	LEDA1S35	67619
55	2	LIGHTING PACKAGE, DOOR SWITCH, FRAME MOUNTED	HOFFMAN	PLFSWD	67225
56	30	TERMINAL BLOCK, 22-10 AWG, 600V, 35 AMP	ALLEN-BRADLEY	1492-J4	41310
57	5	CABLE, ETHERNET, CAT 5E PATCH, 20 FT, BLUE RJ45 TO RJ45, SNAGLESS	BELKIN	A3L791-20-BLU-S	47492
58	4	CABLE, ETHERNET, CAT 5E PATCH, 10 FT, BLUE RJ45 TO RJ45, SNAGLESS	BELKIN	A3L791-10-BLU-S	53168
59	1	POWER SUPPLY, 2.5 AMP, 24VDC, DIN MOUNT	SOLA/HEVIDUTY	SDN 2.5-24-100P	21614
60	1	CIRCUIT BREAKER, MOTOR PROTECTION, 1.6 - 2.5 AMPS	ALLEN-BRADLEY	140M-C2E-B25	36770

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP020 MOTOR CONTROL PANEL
BILL OF MATERIAL
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO. 67603
DESIGN BY J. BROWN | SCALE NONE | DRAWING NO. 9222A-7-022

NOL-TEC SYSTEMS Lino Lakes, MN • USA
www.nol-tec.com (651) 780-8600

LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE •1	LINE •2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	CP020	.	3/4" x 4"	1/2"	WHITE	BLACK
2	1	PROGRAMMING	ONLY	3/4" x 3"	3/16"	WHITE	BLACK
3	1	SEE LEGEND	.	4 1/2" x 7 1/2"	SEE LEGEND	WHITE	BLACK

1

CP020

2

PROGRAMMING
ONLY

3

SORBENT INJECTION
MOTOR CONTROL PANEL

TEXT HEIGHT TO BE 1/4"

ENCLOSURE ID: CP020
VOLTAGES: 480VAC
PHASE AND FREQUENCY: 3PH, 60 HZ
SCCR: 65,000 AMPERES RMS
SUPPLIED FROM: 480VAC SUBSTATION 1A1
BUCKET 4A

TEXT HEIGHT TO BE 3/16"

VOLTAGES: 120VAC
PHASE AND FREQUENCY: 1PH, 60Hz
SCCR: 10,000 AMPERES RMS
SUPPLIED FROM: CUSTOMER

ENCLOSURE ENVIRONMENTAL RATING: TYPE 4X
NOL-TEC SYSTEMS-MINNESOTA-USA

TB1
CB-02626
CB-02846
CB-02852
FU-02854
FU-02856
02626
02626
02626
02626
02625
02625
02625
02625
02625
02625
02625
02625
02830
02830
02831
02831
03414
03414
03414
03414
04112
04146
04160
04202
04214
04246
04260
04264
04302
04314

TB2
L1
L2
GND
CB-02800
FU-02808
FU-02822
FU-02826
02800
02800
N
N
02804
02804
02804
02804
N02805
N02805

STICKERS TO BE MOUNTED TO THE INTERIOR OF THE DOOR

CB & FUSE CHART

CB-02626	20 AMP
CB-02800	20 AMP
CB-02846	20 AMP
CB-02852	10 AMP
FU-02808	5 AMP
FU-02822	5 AMP
FU-02826	5 AMP
FU-02854	5 AMP
FU-02856	2 AMP

JOB #9122A
480/3/60
UTILITY VOLTAGE = 120VAC
CONTROL VOLTAGE = 24VDC
TOTAL FULL LOAD AMPS = 400

HOLES IN ENCLOSURE MUST BE FILLED WITH NEMA TYPE 4X DEVICES

WIRING TERMINALS USE COPPER WIRE WITH 60 DEG C INSULATION

TERMINAL BLOCK TIGHTENING TORQUE
600V 4.4-8.8 LB-IN
600V 7.1-12.4 LB-IN
300V 3-7 LB-IN

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP020 MOTOR CONTROL PANEL
TERMINAL LAYOUT & LEGENDS
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO. 67603
DESIGN BY J. BROWN | SCALE NONE | DRAWING NO. 9222A-7-023

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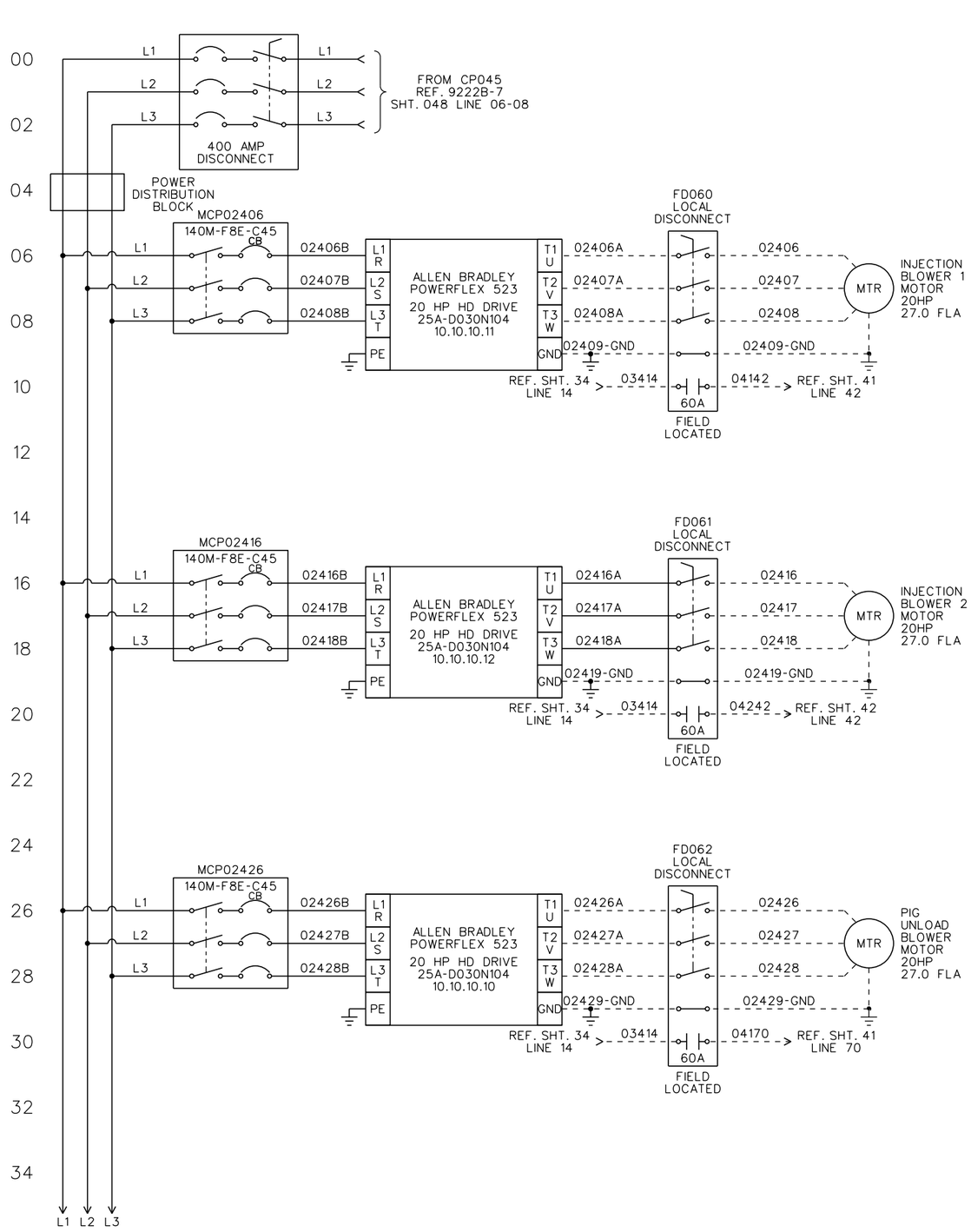

					CP020 MOTOR CONTROL PANEL		
					480VAC POWER DISTRIBUTION		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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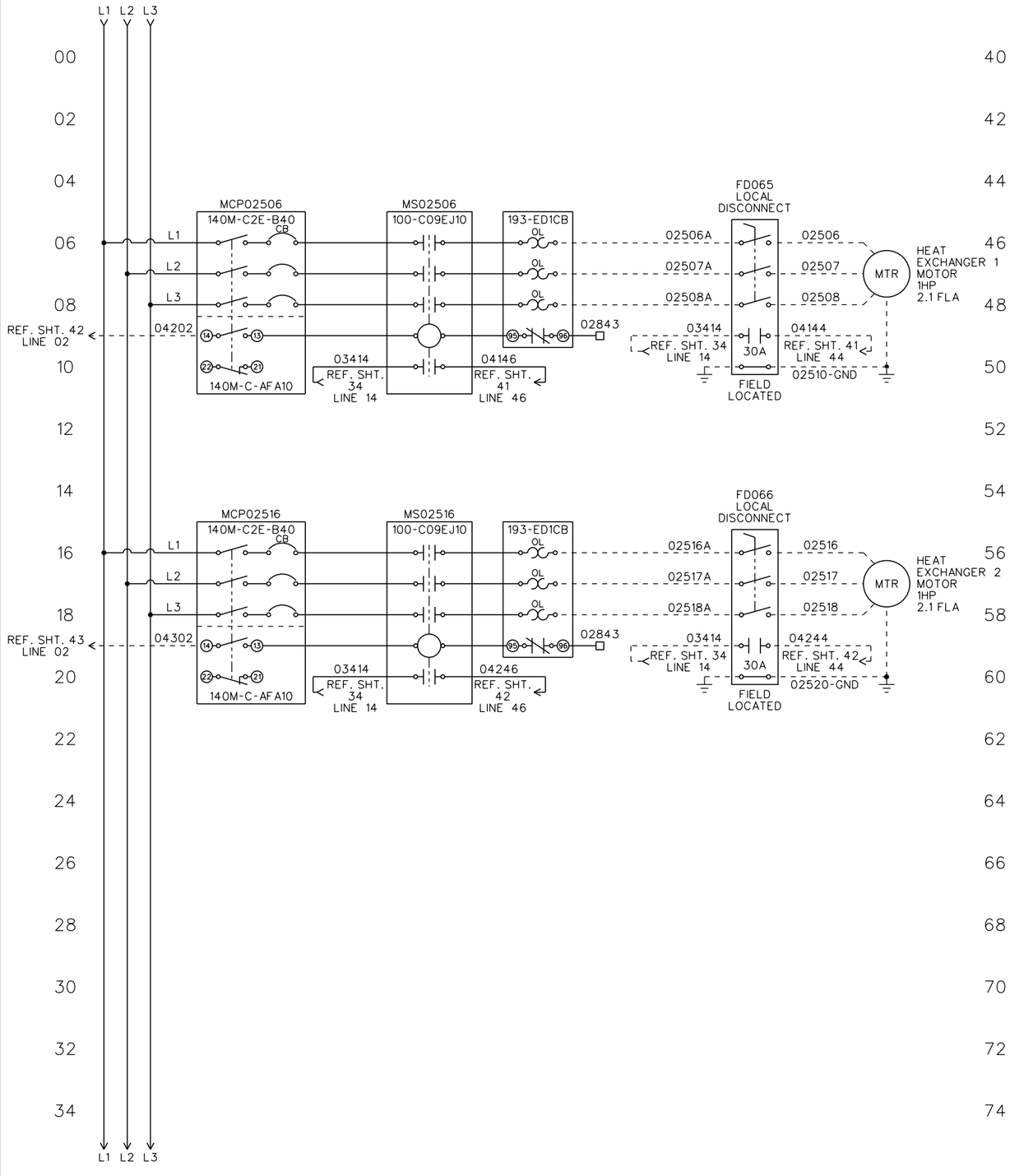
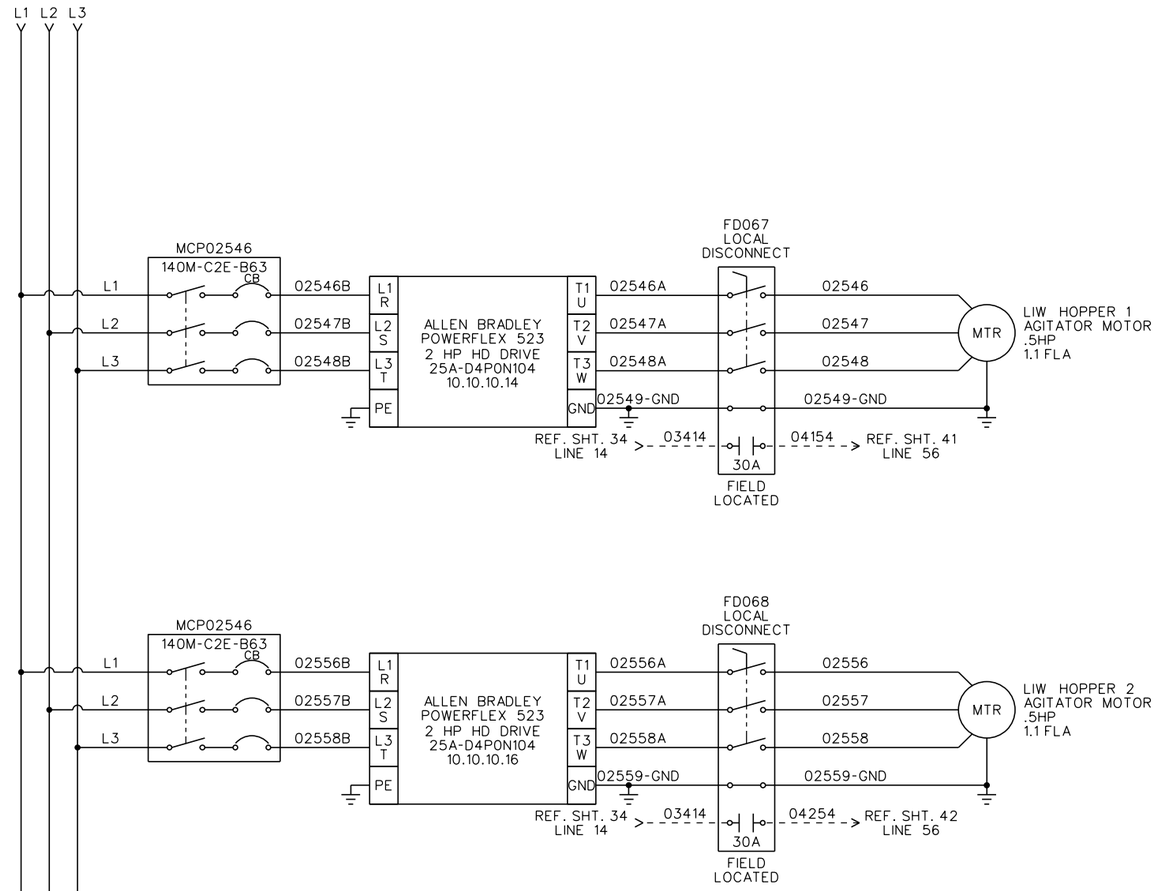
DRAWING NO. 9222A-7-024





					CP020 MOTOR CONTROL PANEL		
					480VAC POWER DISTRIBUTION		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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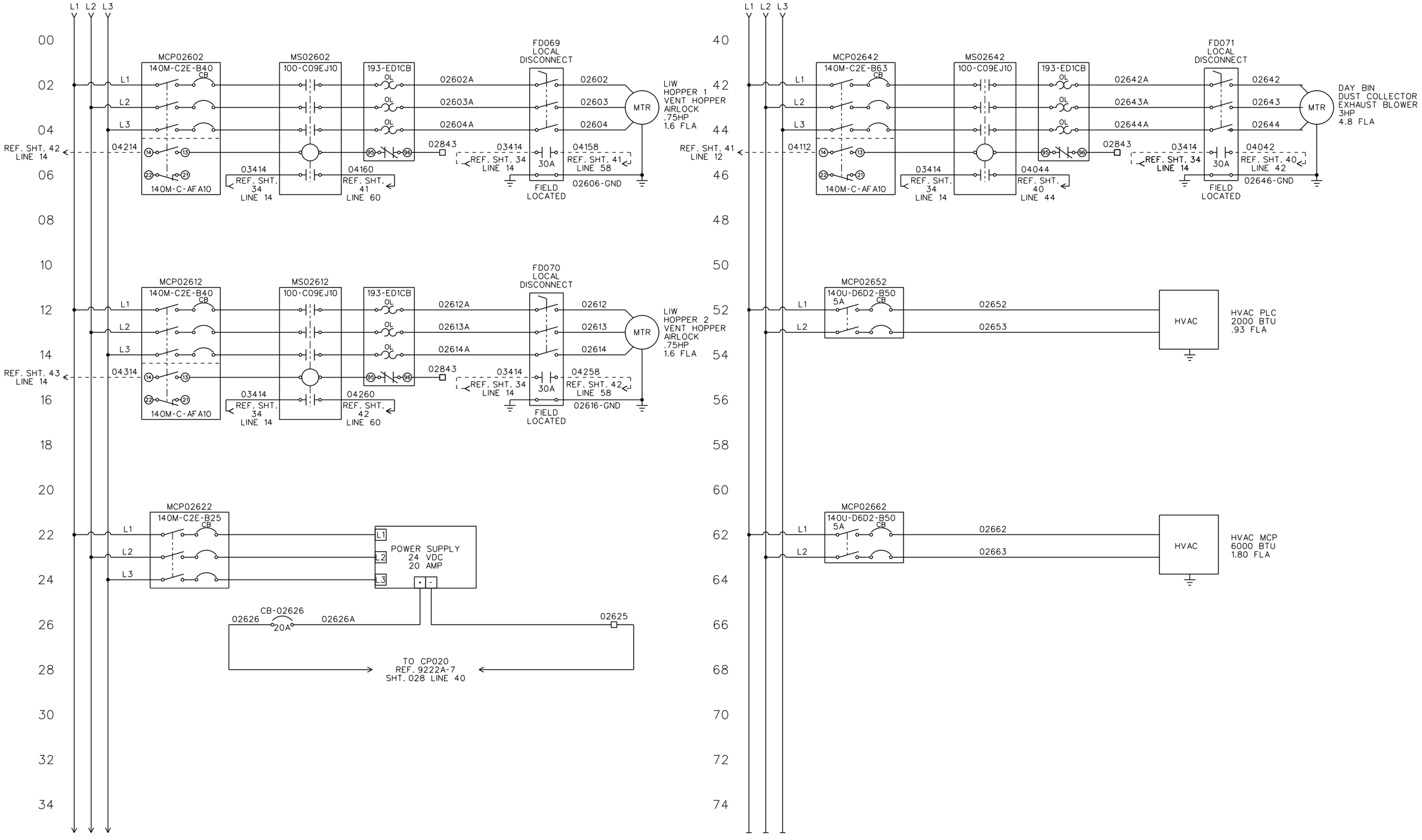
DRAWING NO. 9222A-7-025



					CP020 MOTOR CONTROL PANEL		
					480VAC POWER DISTRIBUTION		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	DRAWING NO. 9222A-7-026

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SHEET 27 IS RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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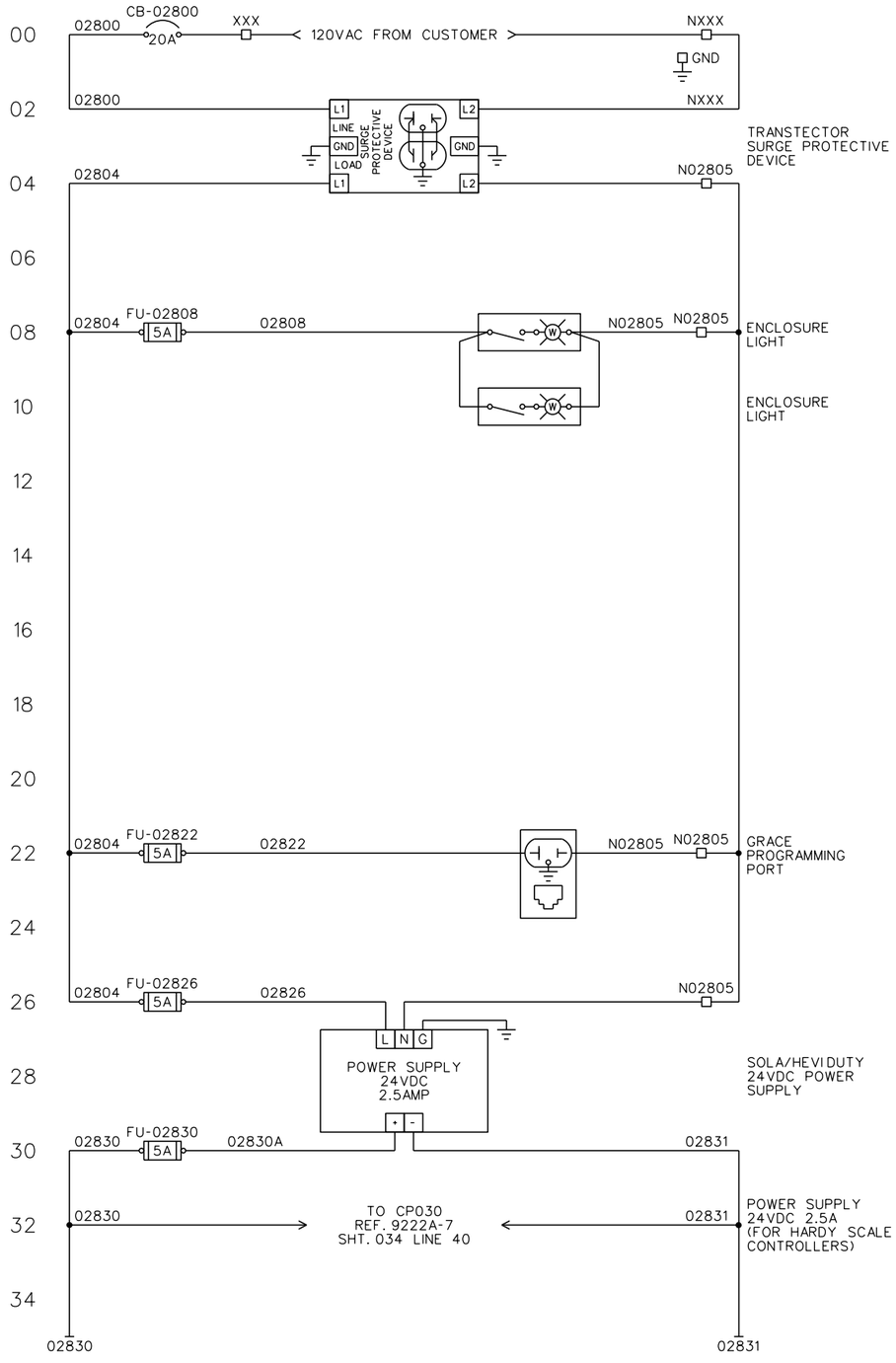
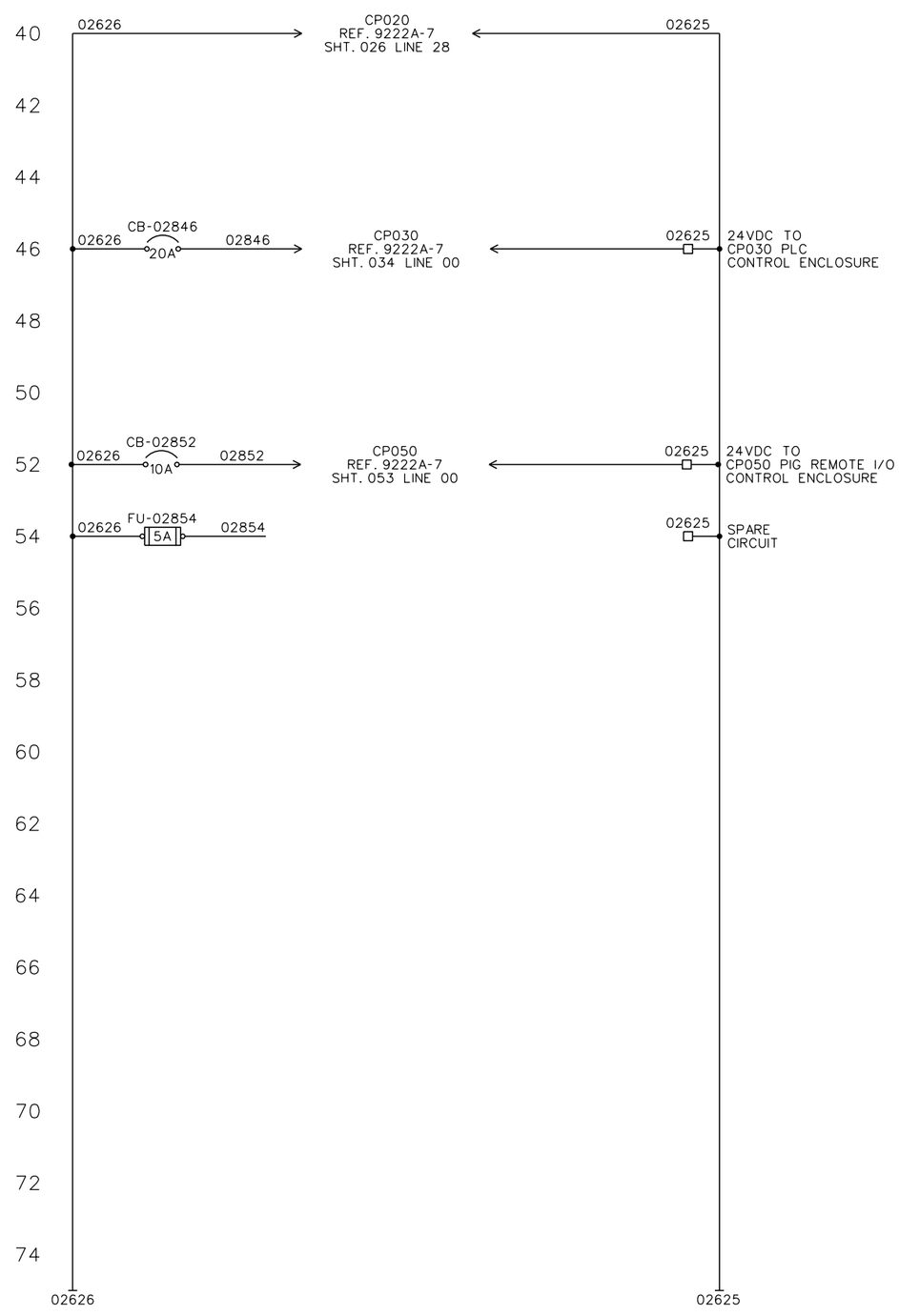
DRAWING NO. 9222A-7-027





					CP020 MOTOR CONTROL PANEL		
					120VAC & 24VDC POWER DISTRIBUTION		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-028

SHEET 29 IS RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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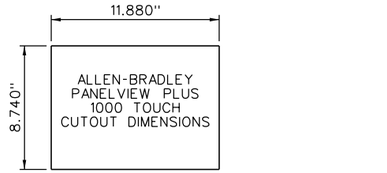
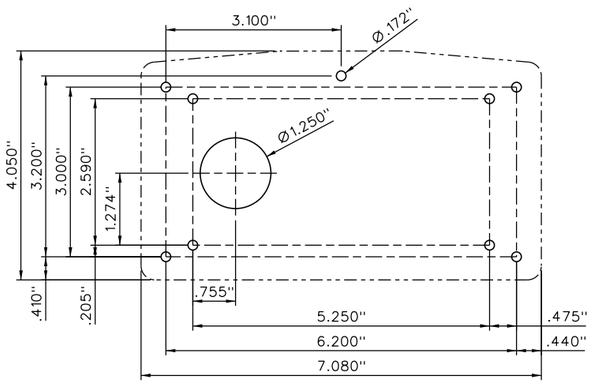
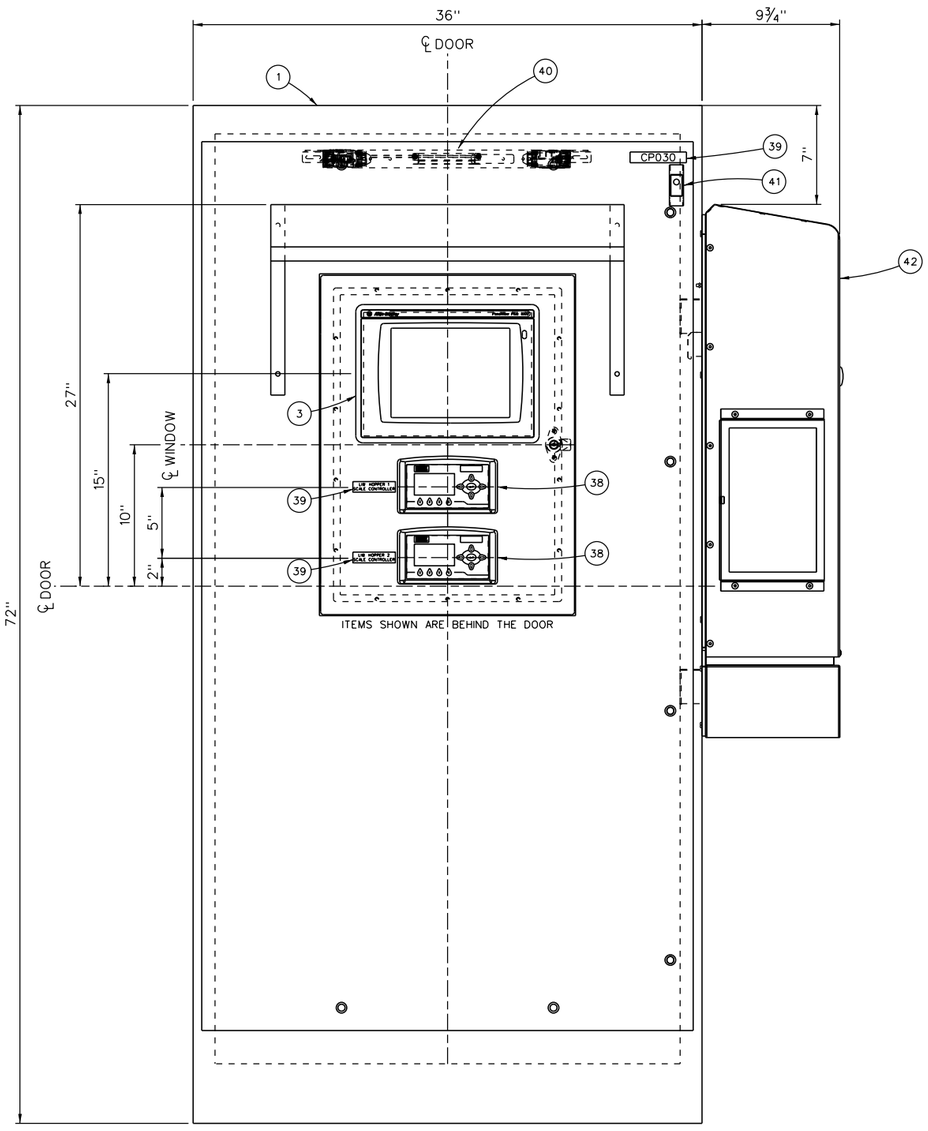
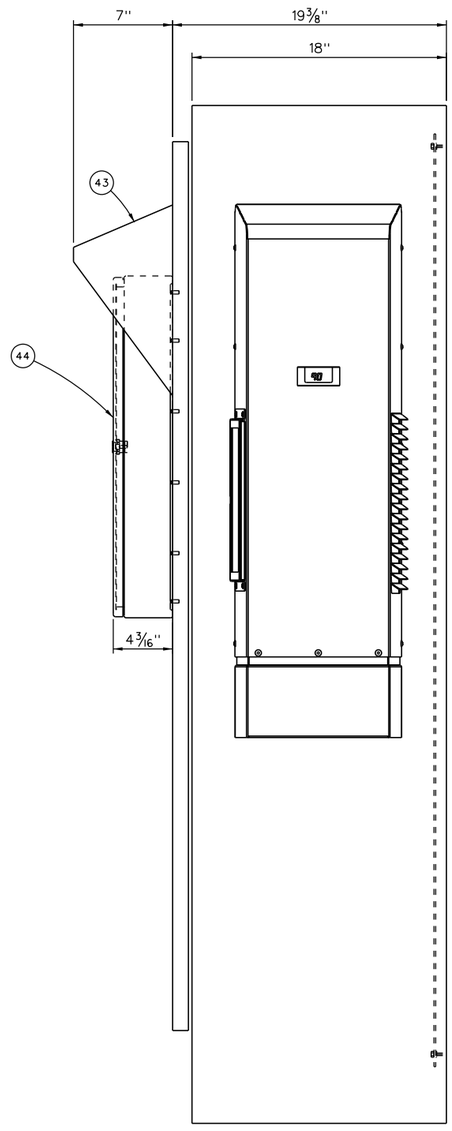
DRAWING NO. 9222A-7-029





HARDY 4050
DRILL PATTERN
(SCALE 4X)





AWI MANUFACTURING
72X36X18 ENCLOSURE
WITH AWNING,
WINDOW KIT AND
BACKPANEL

NOTE:
HUBBELL ETHERNET CONNECTOR IS TO BE
MOUNTED TO TOP OF ENCLOSURE NEAR
THE RIGHT SIDE.

					CP030 PLC CONTROL PANEL		
					PANEL LAYOUT		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO. 67623
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE 3/16"=1"	DRAWING NO. 9222A-7-030

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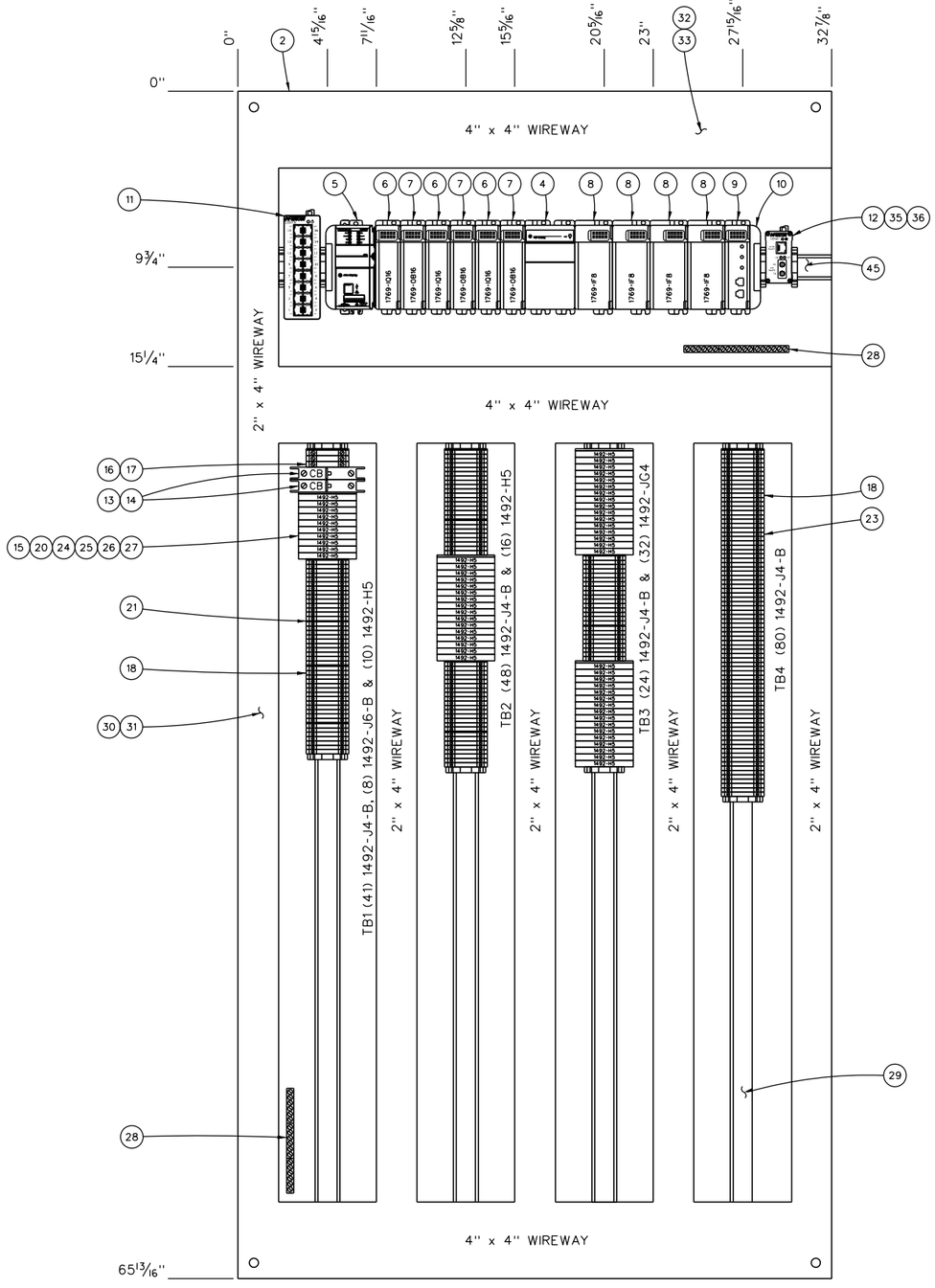

AWI MANUFACTURING
72X36X18 ENCLOSURE
WITH AWNING
WINDOW KIT, AND
BACKPANEL

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
BACKPANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO. 67623
DESIGN BY J. BROWN | SCALE 1/4"=1"

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DRAWING NO. 9222A-7-031

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG •67623					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	MANUFACTURER PART No.	NOL-TEC No.
1	1	ENCLOSURE, NEMA 4X STAINLESS STEEL, 72" X 36" X 18", FREE STANDING, SINGLE DOOR ACCESS	HOFFMAN	A723618SSFSN4	15980
2	1	BACK PANEL, 72" X 36" FULL LENGTH, FREE STANDING ENCLOSURE	HOFFMAN	A72P36F1	15981
3	1	OPERATOR INTERFACE, PANELVIEW PLUS 1000 COLOR, TOUCH, ETHERNET, DC PS	ALLEN-BRADLEY	2711P-T10C4D8	55975
4	1	POWER SUPPLY, COMPACT LOGIX, 4A @ 5V, 2A @ 24 VDC, 24VDC	ALLEN-BRADLEY	1769-PB4	50851
5	1	COMPACTLOGIX, PROCESSOR, W/2 MB MEMORY USE WITH COMPACTLOGIX I/O - ETHERNET	ALLEN-BRADLEY	1769-L33ER	59428
6	3	INPUT MODULE, COMPACT LOGIX, 16 PT DC	ALLEN-BRADLEY	1769-IQ16	56128
7	3	OUTPUT MODULE, COPACT LOGIX, 16 PT DC OUT	ALLEN-BRADLEY	1769-OB16	37605
8	4	INPUT MODULE, ANALOG, COMPACT LOGIX 8 PT VOLTAGE/CURRENT	ALLEN-BRADLEY	1769-IF8	41312
9	1	ETHERNET/IP ADAPTER	ALLEN-BRADLEY	1769-AENTR	67635
10	1	TERMINATOR RIGHT END CAP, MICROLOGIX	ALLEN-BRADLEY	1769-ECR	28721
11	1	ETHERNET SWITCH, 16 10/100 MBT PORTS RJ45 CONNECTORS, 24VDC SUPPLY, DIN MOUNT	N-TRON	116TX	54459
12	1	INDUSTRIAL MEDIA CONVERTER, ST 2KM, 10/100BASE TX->100BASEFX MULTIMODE FIBER	N-TRON	102MC-ST	65601
13	1	CIRCUIT BREAKER, 1 POLE, 10 AMP DIN, C-TRIP	ALLEN-BRADLEY	1489-M1C100	63393
14	1	CIRCUIT BREAKER, 1 POLE, 20 AMP DIN, C-TRIP	ALLEN-BRADLEY	1489-M1C200	61533
15	57	TERMINAL BLOCK, FUSIBLE W/LED INDICATOR 10-57V AC/DC	ALLEN-BRADLEY	1492-H5	24557
16	2	TERMINAL BLOCK, 600 V, 50 A, BLUE	ALLEN-BRADLEY	1492-J6B	48127
17	1	TERMINAL BLOCK, GROUNDING	ALLEN-BRADLEY	1492-JG6	41904
18	180	TERMINAL BLOCK, 22-12 AWG, 600 V, BLUE	ALLEN-BRADLEY	1492-J4-B	41772
19	18	TERMINAL BLOCK, GROUNDING	ALLEN-BRADLEY	1492-JG4	41903
20	4	END BARRIER, (1492-H4 THRU H4)	ALLEN-BRADLEY	1492-N37	10289
21	12	END BARRIER (USED ON 1492-J3, J4, J6 & J10), BLUE	ALLEN-BRADLEY	1492-EBJ3-B	45134
22	10	JUMPER BAR, CNETER, 10 POLE, FOR 1492-J4	ALLEN-BRADLEY	1492-CJJ6-10	41906
23	14	END ANCHOR, DIN RAIL, J-SERIES, STANDARD DUTY	ALLEN-BRADLEY	1492-EAJ35	42412
24	2	FUSE, 250 V, 10 AMP, CERAMIC, FAST ACTING	BUSSMANN	ABC-10	32659
25	6	FUSE, 250V, 5 AMP, CERAMIC, FAST ACTING	BUSSMANN	ABC-5	32614
26	4	FUSE, 250 V, 2 AMP, CERAMIC, 1/4" x 1 1/4"	BUSSMANN	ABC-2	16194
27	65	FUSE, 250 V, 1 AMP, CERAMIC, FAST ACTING	BUSSMANN	ABC-1	15078
28	6	GROUND BAR	CUTLER-HAMMER	GBK5	10404
29	155"	DIN RAIL, HI-RISE, ALUMINUM COPPER FREE ALUM	ALLEN-BRADLEY	1492-DR6	23743
30	220"	WIRE DUCT 2" WD X 4" DEEP, WHT	THOMAS & BETTS	TY2X4NPW6	43647
31	220"	WIRE DUCT, COVER, 2" WD, WHT	THOMAS & BETTS	TY2CPW6	43652
32	96"	WIRE DUCT 4" WD X 4" DEEP, WHT	THOMAS & BETTS	TY4X4NPW6	43650
33	96"	WIRE DUCT, COVER, 4" WD, WHT	THOMAS & BETTS	TY4XPW6	43654
34	1	ENCLOSURE, DOOR STOP KIT, FOR LARGE ENCLOSURES	HOFFMAN	ALGDSTOP2	48275
35	5	CABLE, ETHERNET, CAT 5E PATCH, 20 FT, BLUE RJ45 TO RJ45, SNAGLESS	BELKIN	A3L791-20-BLU-S	47492
36	4	CABLE, ETHERNET, CAT 5E PATCH, 10 FT, BLUE RJ45 TO RJ45, SNAGLESS	BELKIN	A3L791-10-BLU-S	53168
38	2	WEIGH SCALE CONTROLLER, PANEL MOUNT 24 VDC, AB TCP-IP, ROD INCLUDED	HARDY INSTRUMENTS	4050-PM-DC-EIP-ROC	50776
39	4	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND	64382
40	1	HOFFMAN LED LIGHT KIT	HOFFMAN	LEDD1S35	67632
41	1	HOFFMAN LIGHT SWITCH	HOFFMAN	PLFSWD	67225
42	1	HEAT EXCHANGER, 2000 BTU, NEMA 4X, 480VAC	ISC SALES	RZ-02A-486-4X	67617
43	1	AWNING, 25" X 13.5", SS	AWI MFG.	QUOTE •46976	64726
44	1	WINDOW KIT, 22.1875" X 16.125" X 2.75"	AWI MFG.	QUOTE •46976	64724
45	36"	DIN RAIL	ALLEN-BRADLEY	199-DR1	10220

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
BILL OF MATERIAL
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO. 67623
DESIGN BY J. BROWN | SCALE NONE

NOL-TEC SYSTEMS Lino Lakes, MN • USA
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DRAWING NO. 9222A-7-032

LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE #1	LINE #2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	CP030	.	3/4" x 4"	1/2"	WHITE	BLACK
2	1	LIW HOPPER 2	SCALE CONTROLLER	3/4" x 3"	3/16"	WHITE	BLACK
3	1	LIW HOPPER 1	SCALE CONTROLLER	3/4" x 3"	3/16"	WHITE	BLACK
4	1	SEE LEGEND	.	3 1/2" x 7 1/2"	SEE LEGEND	WHITE	BLACK

1

CP030

2

LIW HOPPER 1
SCALE CONTROLLER

3

LIW HOPPER 2
SCALE CONTROLLER

4

SORBENT INJECTION
MAIN PLC PANEL

TEXT HEIGHT TO BE 1/4"

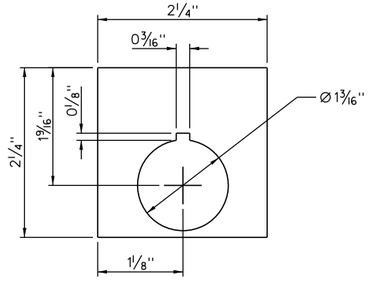
ENCLOSURE ID: CP030
VOLTAGES: 24VDC

TEXT HEIGHT TO BE 3/16"

SUPPLIED FROM: CP030

ENCLOSURE ENVIRONMENTAL RATING: TYPE 4X

NOL-TEC SYSTEMS-MINNESOTA-USA



TB1
01843
01846
GND
CB-03400
CB-03414
FU-03404
FU-03406
FU-03408
FU-03410
FU-03412
FU-03416
FU-03440
FU-03456
FU-03472
02625
02625
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02831
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GND
03400
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TB2
04042
04044
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04072
03414
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FU-04102
FU-04104
FU-04106
FU-04108
FU-04110
FU-04112
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FU-04116
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FU-04132
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03414
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03414

TB3
FU-04202
FU-04204
FU-04206
FU-04208
FU-04210
FU-04212
FU-04214
FU-04216
FU-04218
FU-04220
FU-04222
FU-04224
FU-04226
FU-04228
FU-04230
FU-04232
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FU-04302
FU-04304
FU-04306
FU-04308
FU-04310
FU-04312
FU-04314
FU-04316
FU-04318
FU-04320
FU-04322
FU-04324
FU-04326
FU-04328
FU-04330
FU-04332
02625
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02625

TB4
03414
04402
SHLD
03414
04406
03414
04410
SHLD
03414
04414
03414
04418
SHLD
03414
04422
03414
04426
SHLD
03414
04430
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04442
SHLD
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04446
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04450
SHLD
03414
04454
03414
04458
SHLD
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SHLD
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04470
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04502
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SHLD
03414
04562
03414
04566
SHLD
03414
04570

STICKERS TO BE MOUNTED TO THE INTERIOR OF THE DOOR

CB & FUSE CHART

CB-03400	20 AMP
CB-03414	10 AMP
FU-03404	10 AMP
FU-03406	5 AMP
FU-03408	2 AMP
FU-03410	2 AMP
FU-03412	5 AMP
FU-03440	5 AMP
FU-03456	1 AMP
FU-03472	1 AMP
FU-04102 - FU-04132	1 AMP
FU-04202 - FU-04232	1 AMP
FU-04302 - FU-04332	1 AMP

JOB #9222A
CONTROL VOLTAGE = 24VDC
TOTAL FULL LOAD AMPS = 20

HOLES IN ENCLOSURE MUST BE FILLED WITH NEMA TYPE 12 DEVICES

WIRING TERMINALS USE COPPER WIRE WITH 60 DEG C INSULATION

TERMINAL BLOCK TIGHTENING TORQUE
600V 4.4-8.8 LB-IN
600V 7.1-12.4 LB-IN
300V 3-7 LB-IN

REV	DATE	REVISION NOTE	DRAWN	DESIGN	
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	

CP030 PLC CONTROL PANEL
TERMINAL LAYOUT & LEGENDS
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.14
DESIGN BY J. BROWN — SCALE NONE
CATALOG NO. 67623
DRAWING NO. 9222A-7-033

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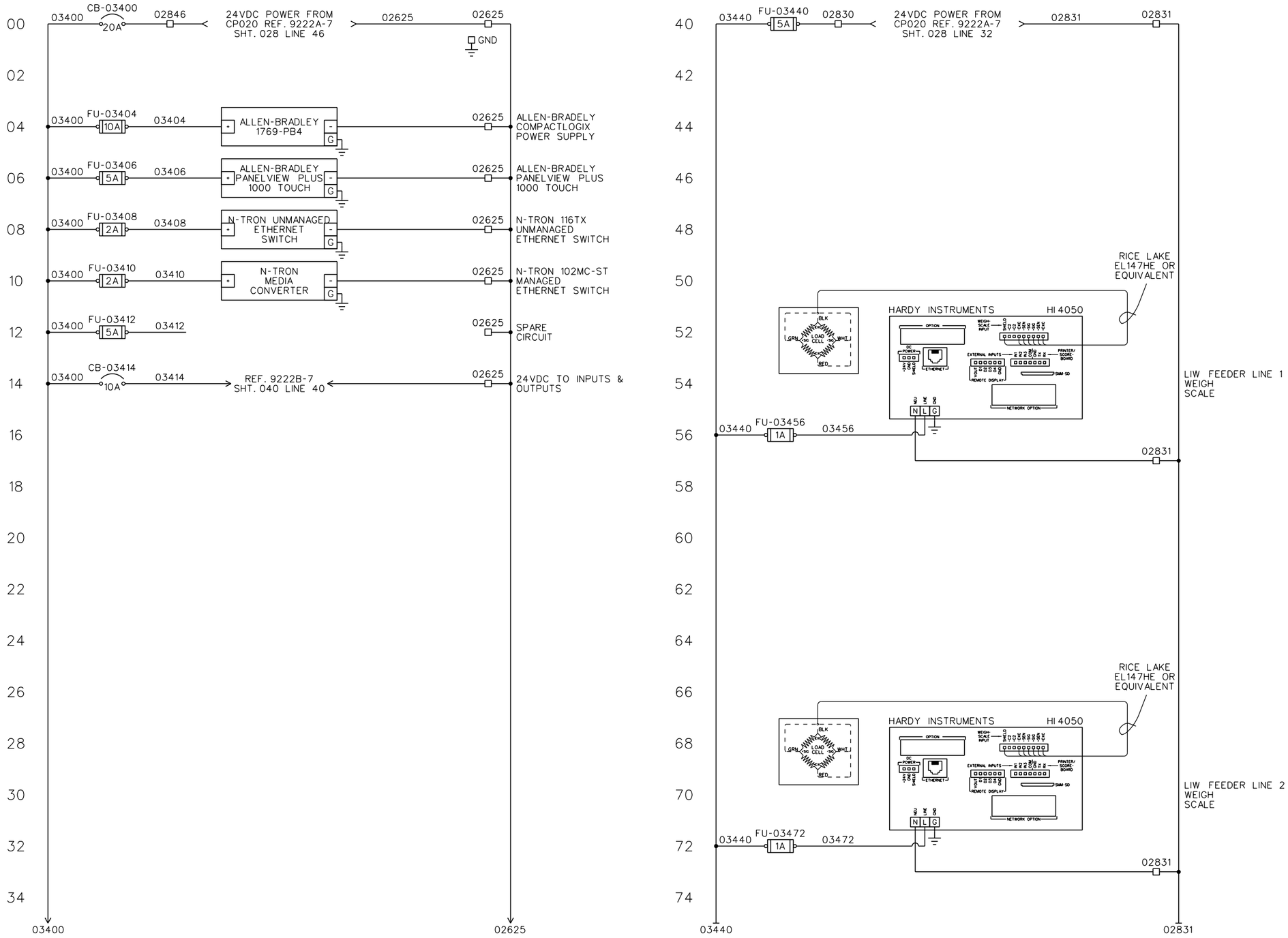

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
24VDC POWER DISTRIBUTION
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.15 — CATALOG NO.
DESIGN BY J. BROWN — SCALE NONE

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DRAWING NO. 9222A-7-034

SHEETS 35-39 ARE RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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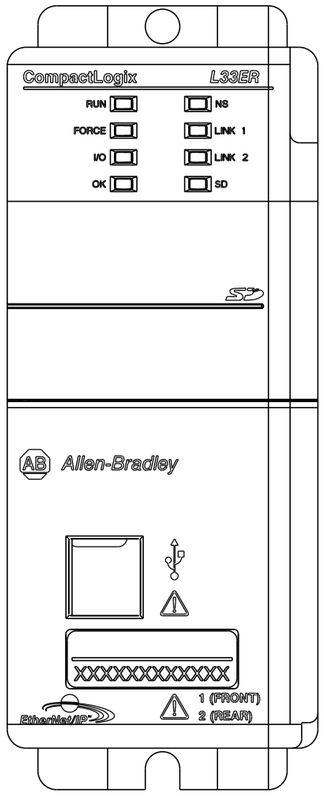
DRAWING NO. 9222A-7-035

ALLEN-BRADLEY •1769-L33ER
COMPACTLOGIX PROCESSOR
RACK A, SLOT 0



03414

ALLEN-BRADLEY •1769-IQ16
24VDC INPUT MODULE
RACK A, SLOT 1

1769-IQ16

40				
42	03414	FD071 REF. SHT. 26 LINE 45	04042	IN 0 DATA[1].00 — DAY BIN DUST COLLECTOR EXHAUST FAN LOCAL DISCONNECT
44	03414	REF. SHT. 26 LINE 46	04044	IN 1 DATA[1].01 — DAY BIN DUST COLLECTOR EXHAUST FAN RUNNING
46	03414		04046	IN 2 DATA[1].02 — SPARE INPUT
48	03414		04048	IN 3 DATA[1].03 — SPARE INPUT
50			04050	IN 4 DATA[1].04 — SPARE INPUT
52	03414	LSHH04051 PROXIMITY CLS2 LEVEL SENSOR	02625 / 04052	IN 5 DATA[1].05 — DAY BIN HIGH HIGH LEVEL PROBE
54	03414	LSH04053 PROXIMITY CLS2 LEVEL SENSOR	02625 / 04054	IN 6 DATA[1].06 — DAY BIN HIGH LEVEL PROBE
56	03414	LSL04055 PROXIMITY CLS2 LEVEL SENSOR	02625 / 04056	IN 7 DATA[1].07 — DAY BIN LOW LEVEL PROBE
				DC COM1
58	03414	ZSC04058	04058	IN 8 DATA[1].08 — DAY BIN DISCHARGE VALVE CLOSED LIMIT SWITCH
60		ZSO04060	04060	IN 9 DATA[1].09 — DAY BIN DISCHARGE VALVE OPENED LIMIT SWITCH
62			04062	IN 10 DATA[1].10 — SPARE INPUT
64			04064	IN 11 DATA[1].11 — SPARE INPUT
66			04066	IN 12 DATA[1].12 — SPARE INPUT
68			04068	IN 13 DATA[1].13 — SPARE INPUT
70			04070	IN 14 DATA[1].14 — SPARE INPUT
72			04072	IN 15 DATA[1].15 — SPARE INPUT
74				DC COM2

02625

03414

02625

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
I/O WIRING DIAGRAM MODULE 0 & 1
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.15 — CATALOG NO.
DESIGN BY J. BROWN — SCALE NONE

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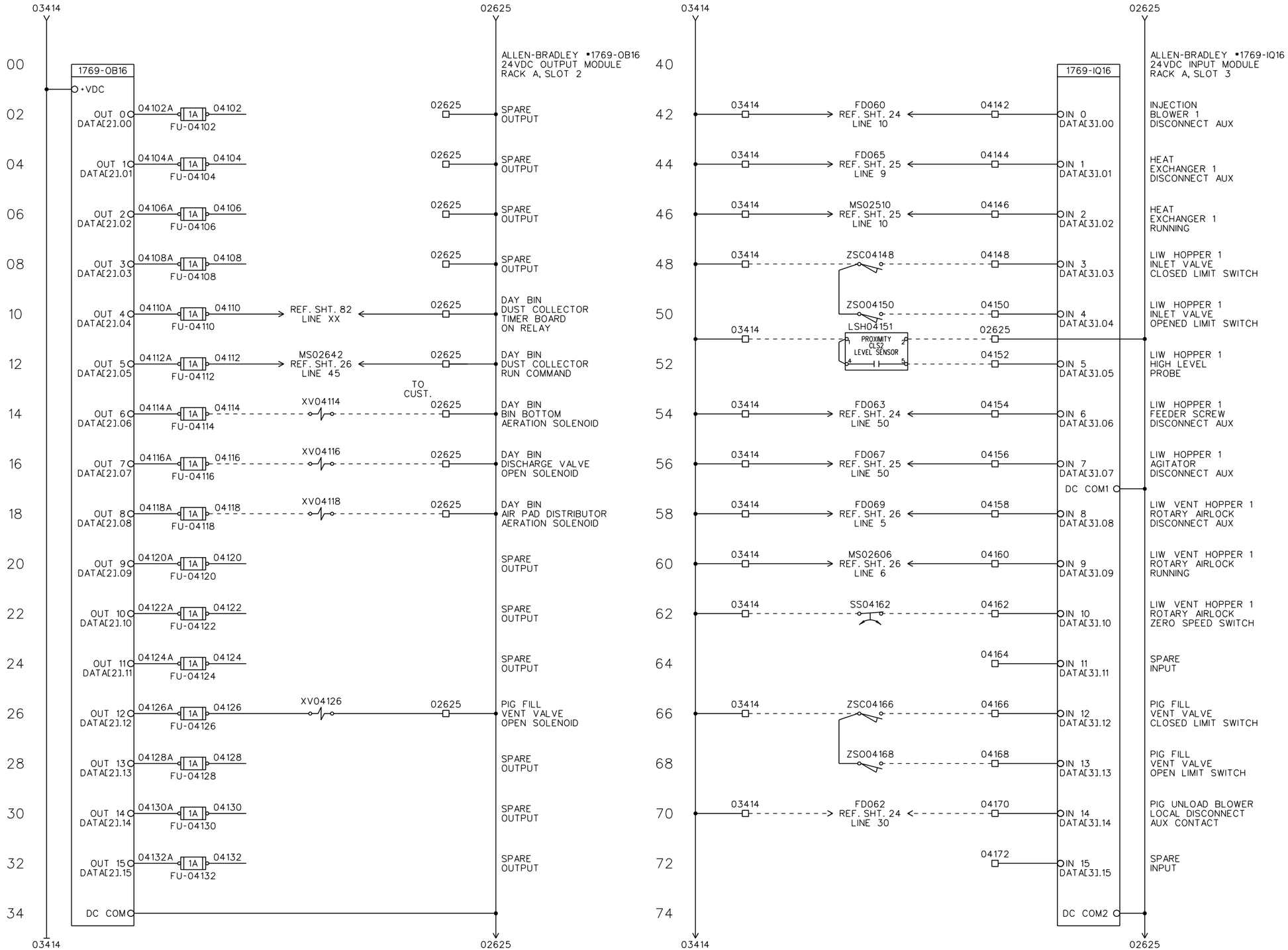
DRAWING NO. 9222A-7-040



REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
I/O WIRING DIAGRAM MODULE 2 & 3
DESERT VIEW POWER UNIT A & B
MECCA, CA

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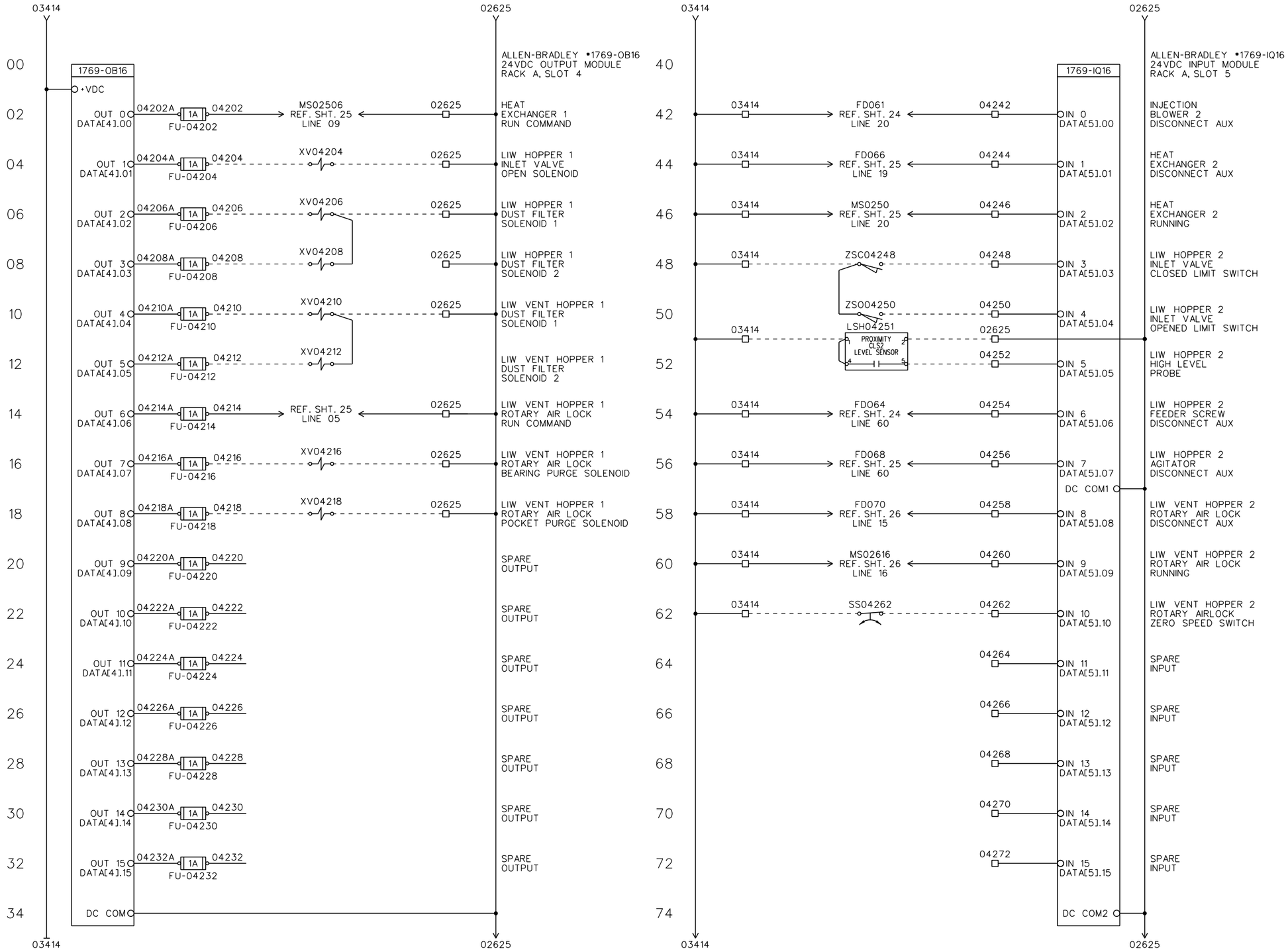
DRAWN BY J. ELLWEIN — DATE 06.Aug.15
DESIGN BY J. BROWN — SCALE NONE
CATALOG NO.
DRAWING NO. 9222A-7-041



REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
I/O WIRING DIAGRAM MODULE 4 & 5
DESERT VIEW POWER UNIT A & B
MECCA, CA

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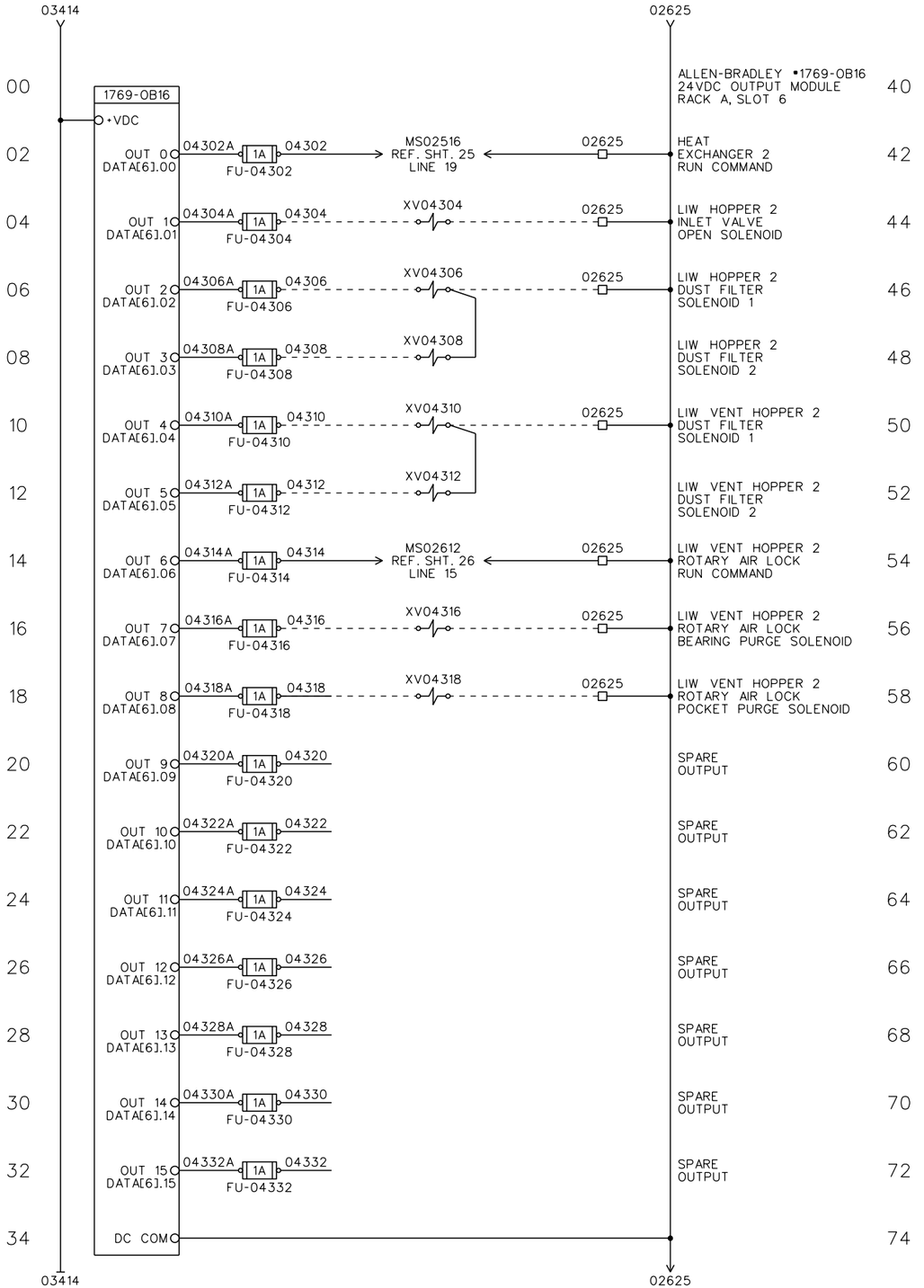
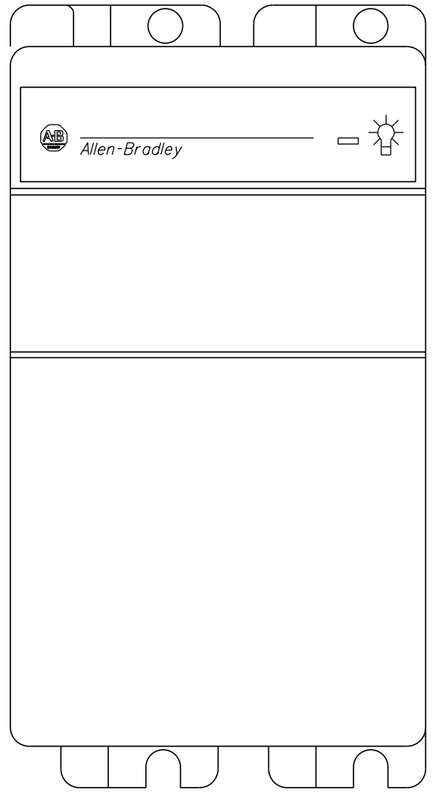
DRAWN BY J. ELLWEIN | DATE 06.Aug.15 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

DRAWING NO. 9222A-7-042





ALLEN-BRADLEY •1769-PB4
COMPACT LOGIX
POWER SUPPLY, 4A @ 24VDC

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
I/O WIRING DIAGRAM MODULE 6
DESERT VIEW POWER UNIT A & B
MECCA, CA

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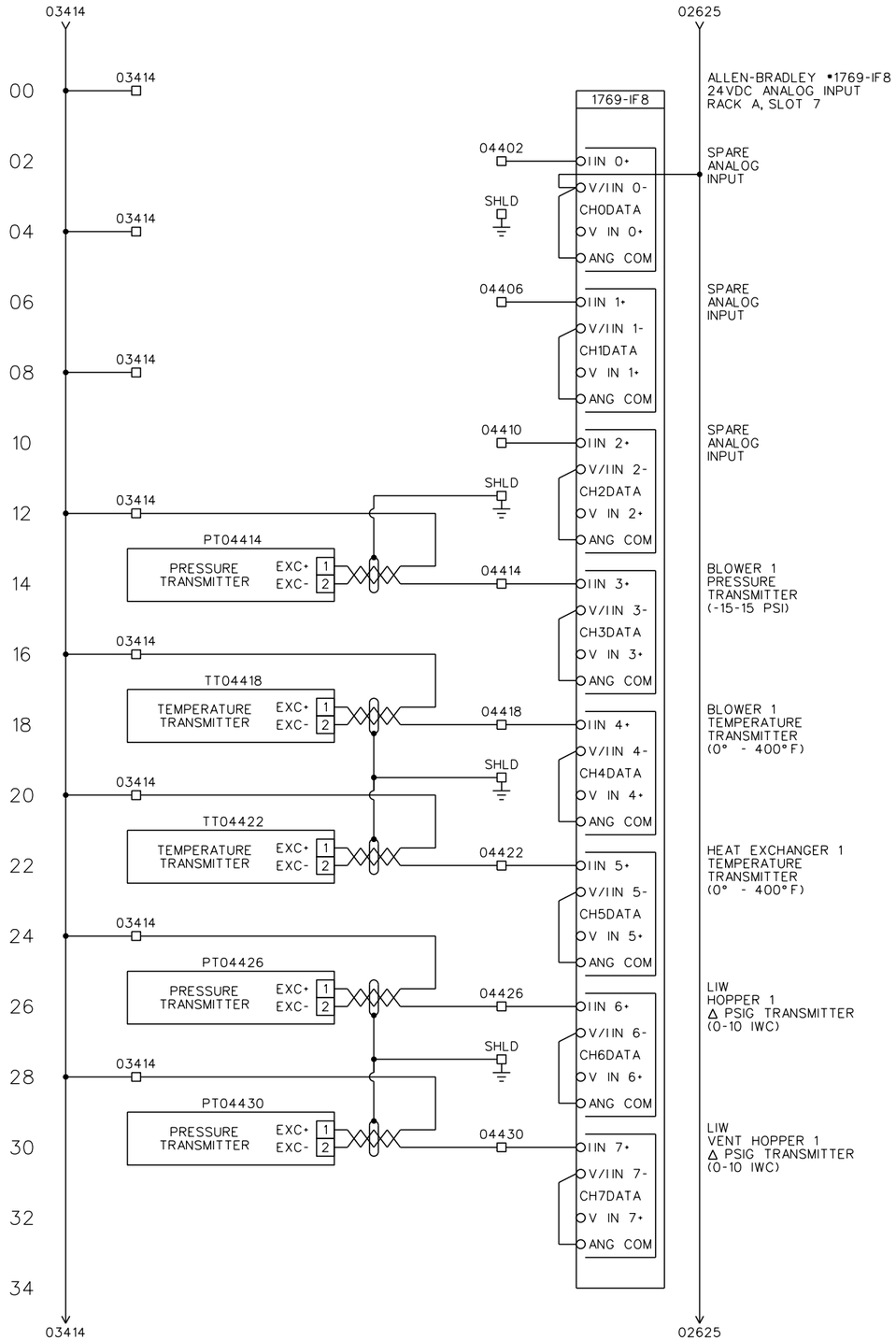
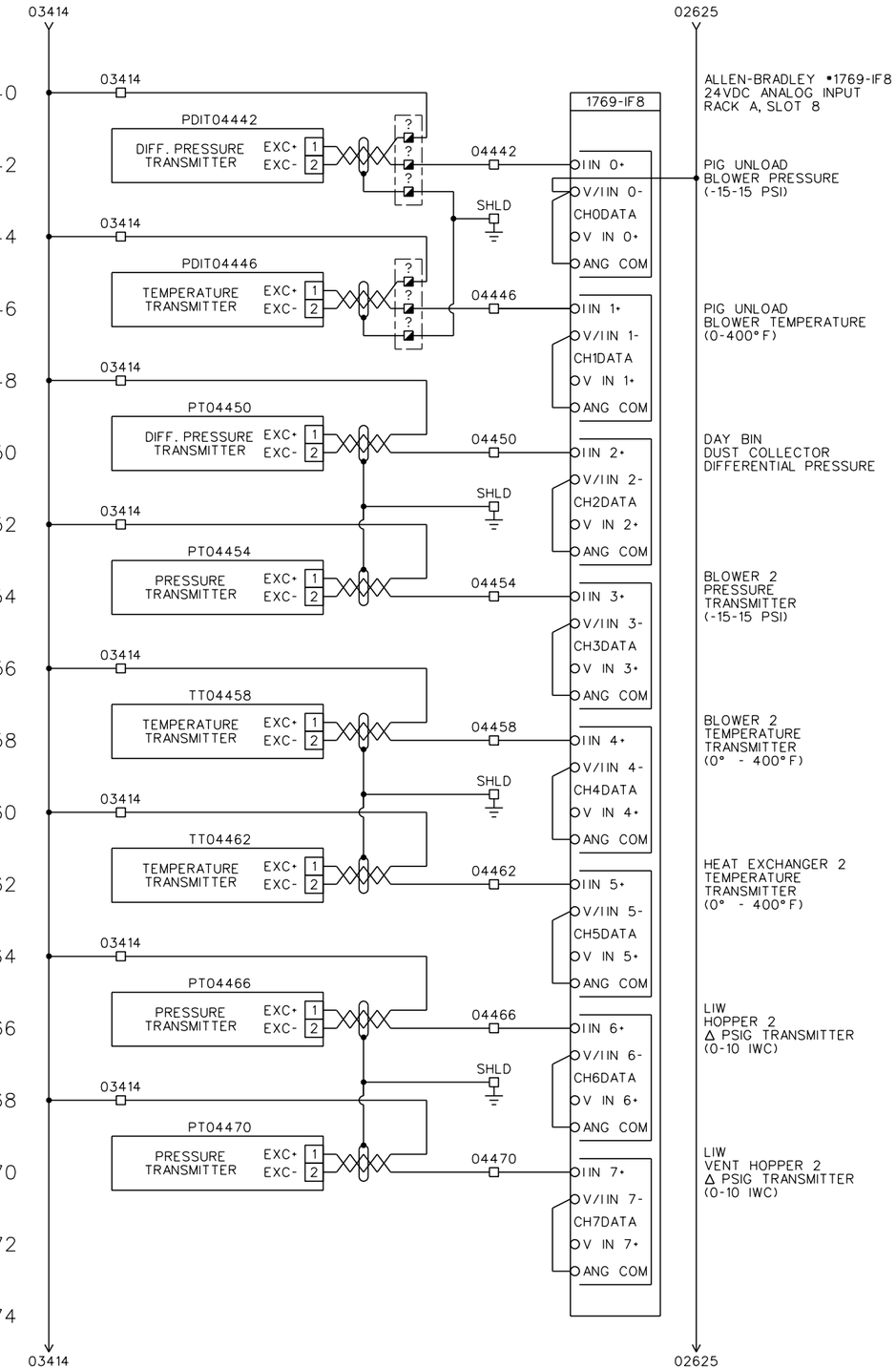
DRAWN BY J. ELLWEIN — DATE 06.Aug.15
DESIGN BY J. BROWN — SCALE NONE
CATALOG NO.
DRAWING NO. 9222A-7-043





REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
I/O WIRING DIAGRAM MODULE 7 & 8
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.15 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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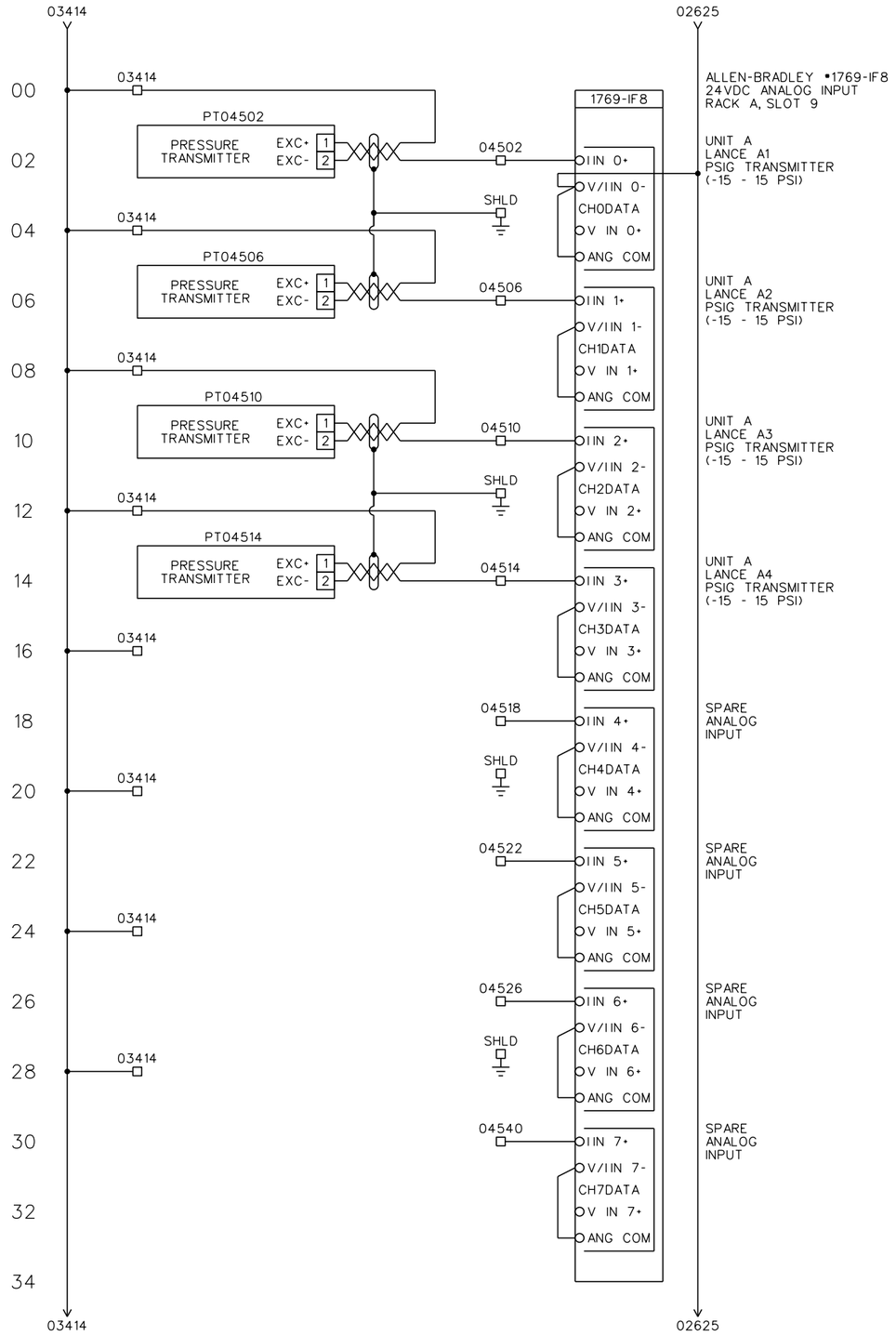
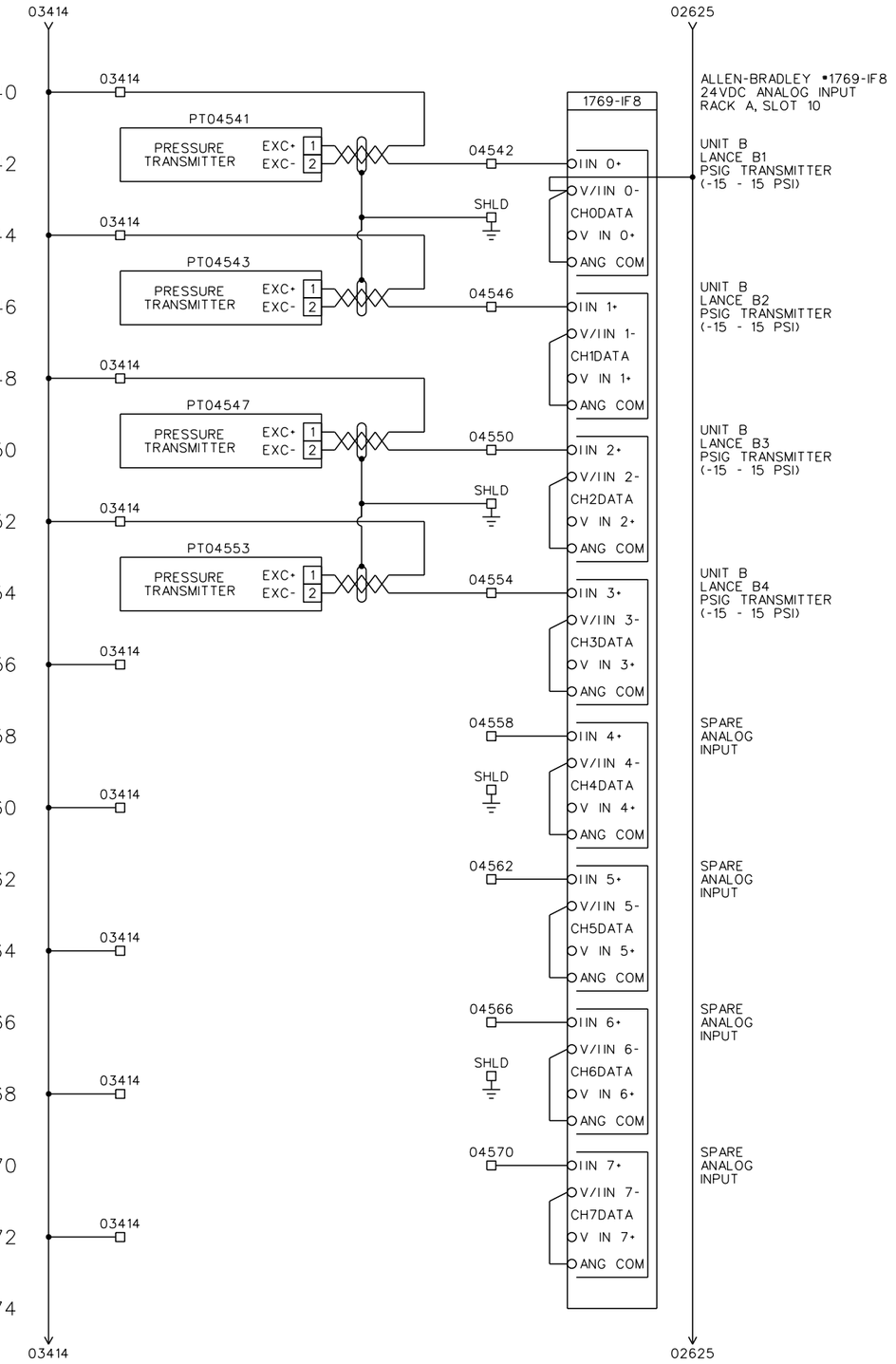
DRAWING NO.
9222A-7-044





REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP030 PLC CONTROL PANEL
I/O WIRING DIAGRAM MODULE 9 & 10
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.15
DESIGN BY J. BROWN — SCALE NONE
CATALOG NO.

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DRAWING NO.
9222A-7-045

00		40	
02		42	
04		44	
06		46	
08		48	
10		50	
12		52	
14		54	
16		56	
18		58	
20		60	
22		62	
24		64	
26		66	
28		68	
30		70	
32		72	
34		74	

					CP030 PLC CONTROL PANEL		
					I/O WIRING DIAGRAM MODULE ETHERNET		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-046

SHEETS 47-49 ARE RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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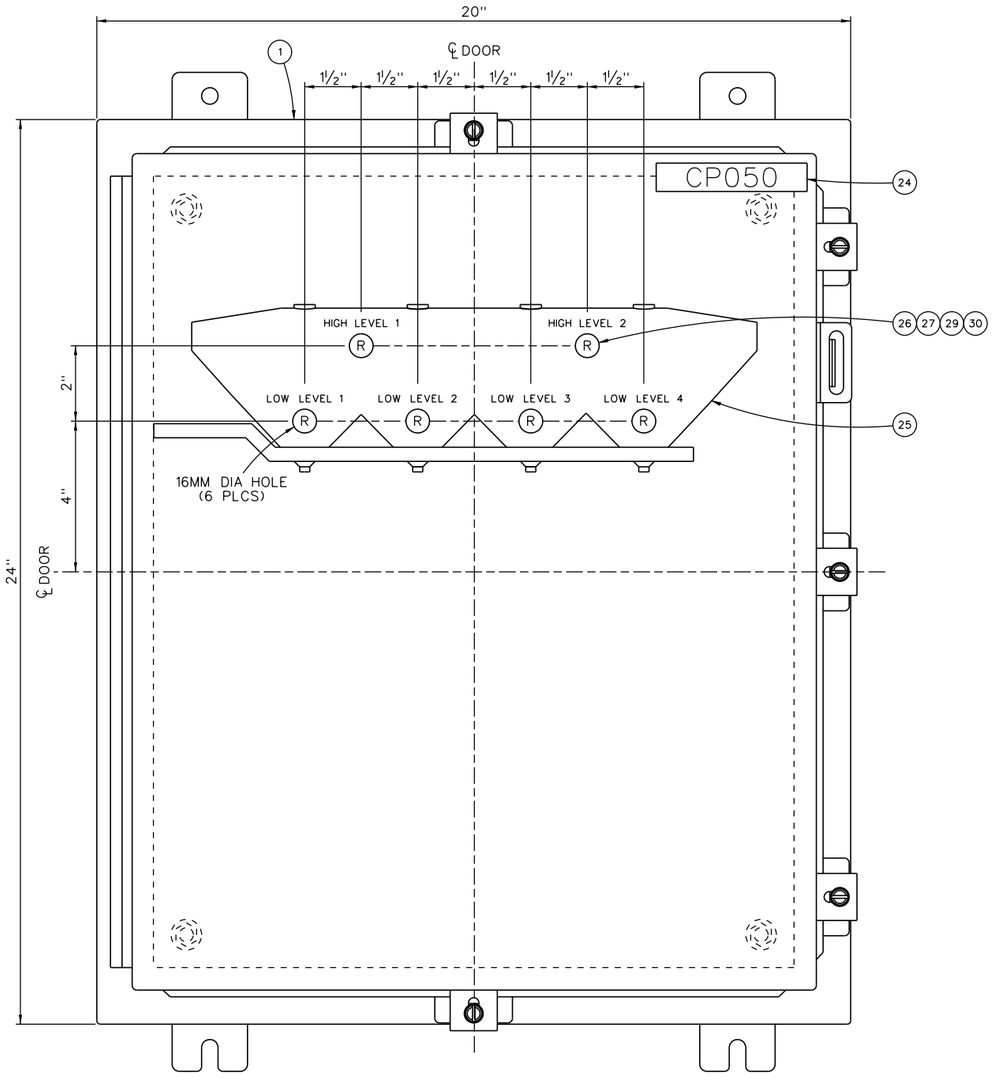
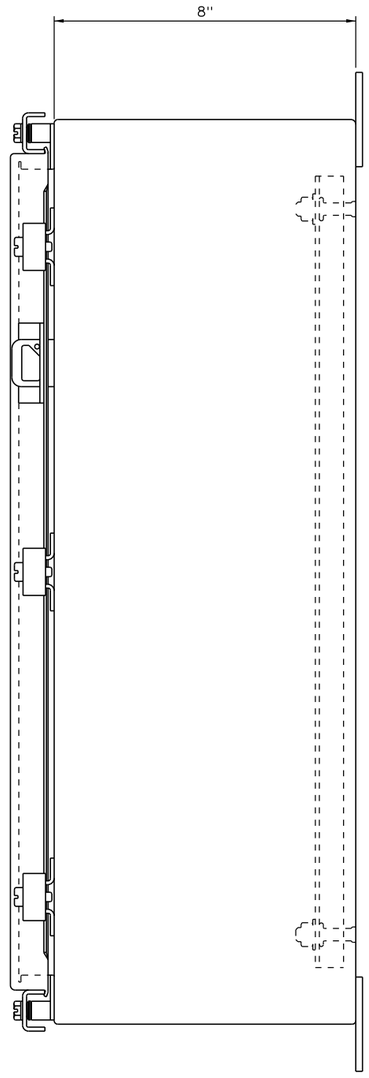
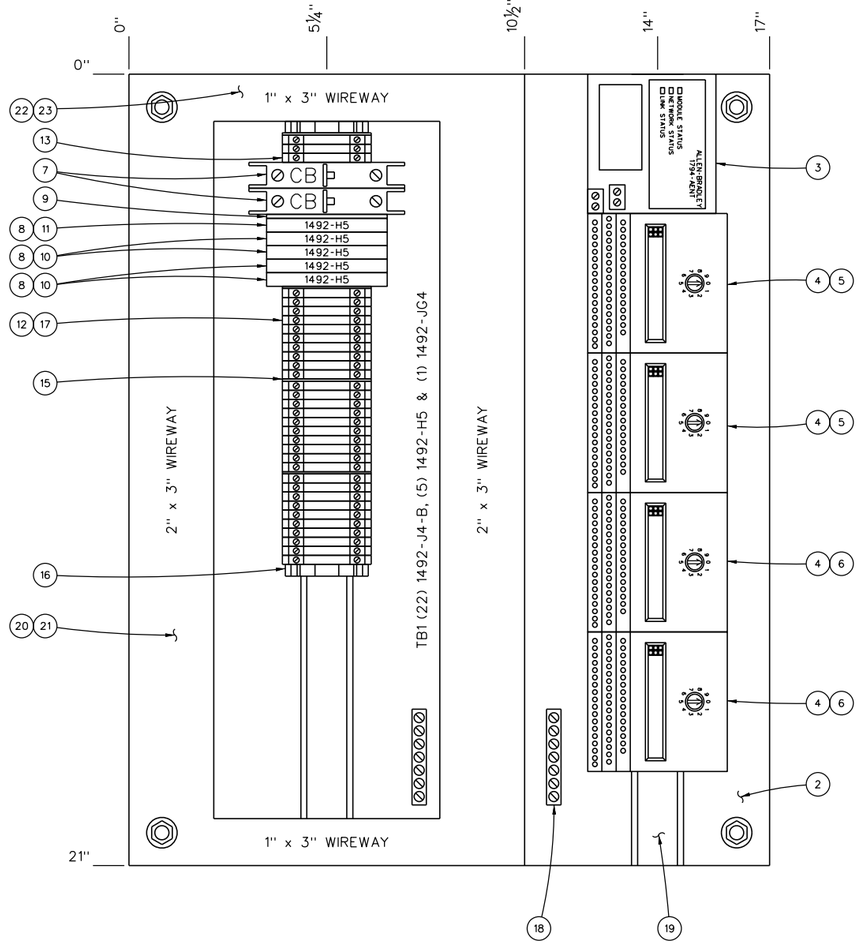
DRAWING NO. 9222A-7-047







ENCLOSURE:
NEMA 4X, 304SS
HOFFMAN A24H2008SSLP
24.00" x 20.00"W x 8.00"D
SUBPANEL:
HOFFMAN A24P20
21.00"H x 17.00"W

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP050 PIG REMOTE I/O PANEL
PANEL & BACKPANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.14
DESIGN BY J. BROWN — SCALE 1/2"=1"

CATALOG NO. 67626

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DRAWING NO. 9222A-7-050

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG •67626					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.	NOL-TEC No.
1	1	ENCLOSURE, NEMA 4X, 24" X 20" X 8", 304SS	HOFFMAN	A24H2008SSLP	24522
2	1	BACK PANEL, 21.00" X 17.00"	HOFFMAN	A24P20	17731
3	1	FLEX I/O ETHERNET ADAPTER MODULE W/24VDC POWER SUPPLY	ALLEN-BRADLEY	1794-AENT	40057
4	4	FLEX I/O TERMINAL WIRING BASE	ALLEN-BRADLEY	1794-TB3	23347
5	2	FLEX I/O 16-POINT, 24 VDC, INPUT MODULE SINK (SOURCE LOAD)	ALLEN-BRADLEY	1794-IB16	34000
6	2	FLEX I/O 16-POINT, 24 VDC, OUTPUT MODULE SOURCE	ALLEN-BRADLEY	1794-OB16	34001
7	2	CIRCUIT BREAKER, 1 POLE, 10 AMP DIN, C-TRIP	ALLEN-BRADLEY	1489-M1C100	63393
8	5	TERMINAL BLOCK, FUSIBLE W/LED INDICATOR 10-57V AC/DC	ALLEN-BRADLEY	1492-H5	24557
9	1	END BARRIER, (1492-H4 THRU H7)	ALLEN-BRADLEY	1492-N37	10289
10	4	FUSE, 250 V, 5 AMP, CERAMIC, 1/4" X 1 1/4", FAST ACTING	BUSSMANN	ABC-5	32614
11	2	FUSE, 250 V, 2 AMP, CERAMIC, 1/4" X 1 1/4", FAST ACTING	BUSSMANN	ABC-2	16194
12	32	TERMINAL BLOCK, 300 V, 35 A, BLUE	ALLEN-BRADLEY	1492-J4-B	41772
13	1	TERMINAL BLOCK, GROUNDING	ALLEN-BRADLEY	1492-JG4	41903
15	4	END BARRIER (USED ON 1492-J3, J4, J6, & J10), BLUE	ALLEN-BRADLEY	1492-EBJ3-B	41534
16	2	END ANCHOR, DIN RAIL, J-SERIES, STANDARD DUTY	ALLEN-BRADLEY	1492-EAJ35	42412
17	3	JUMPER BAR, CENTER, 10 POLE, FOR 1492-J4	ALLEN-BRADLEY	1492-CJJ6-10	41906
18	2	GROUND BAR	CUTLER-HAMMER	CBK5	10404
19	48"	DIN RAIL	ALLEN-BRADLEY	199-DR1	10220
20	48"	WIRE DUCT, 2" WD X 3" DEEP, WHT	THOMAS & BETTS	TY2X3NPW6	43646
21	48"	WIRE DUCT, COVER, 2" WD, WHT	THOMAS & BETTS	TY2CPW6	43652
22	24"	WIRE DUCT, 1" WD X 3" DEEP, WHT	THOMAS & BETTS	TY1X3NPW6	43644
23	24"	WIRE DUCT, COVER, 1" WD, WHT	THOMAS & BETTS	TY1CPW6	43651
24	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND	64382
25	1	LEGEND - MASK FOR ENCLOSURE	CONTROL CENTER	QUOTE •	-
26	6	PUSH BUTTON/PILOT LIGHT, OPERATOR, 12-120V, ROUND, EXTENDED, NEMA 4/4X/13	ALLEN-BRADLEY	800B-EPA	67641
27	6	PILOT LIGHT LENS, RED, ROUND	ALLEN-BRADLEY	800B-ALA4	67561
29	6	LAMP, LED, RED, 12/24V AC/DC	ALLEN-BRADLEY	800B-N3R	67560
30	6	CONTACT BLOCK, PILOT LIGHT	ALLEN-BRADLEY	800B-PL	67559

					CP050 PIG REMOTE I/O PANEL		
					BILL OF MATERIAL		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO. 67626
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	DRAWING NO. 9222A-7-051

NOL-TEC SYSTEMS Lino Lakes, MN • USA
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LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE #1	LINE #2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	CP050	.	3/4" x 4"	1/2"	WHITE	BLACK

1 CP050

TB2

02852
02625
GND
CB-05300
CB-05302
FU-05310
FU-05316
FU-05318
FU-05600
FU-05640
05300
05300
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05302
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STICKERS TO BE MOUNTED TO THE INTERIOR OF THE DOOR

CB & FUSE CHART

CB-05300	10 AMP
CB-05302	10 AMP
FU-05310	2 AMP
FU-05316	5 AMP
FU-05318	5 AMP
FU-05600	5 AMP
FU-05640	5 AMP

JOB #9222A
CONTROL VOLTAGE = 24VDC
TOTAL FULL LOAD AMPS = 10

HOLES IN ENCLOSURE MUST BE FILLED WITH NEMA TYPE 4X DEVICES

WIRING TERMINALS USE COPPER WIRE WITH 60 DEG C INSULATION

TERMINAL BLOCK TIGHTENING TORQUE
600V 4.4-8.8 LB-IN
600V 7.1-12.4 LB-IN
300V 3-7 LB-IN

REV	DATE	REVISION NOTE	DRAWN	DESIGN			
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO. 67626
					DESIGN BY J. BROWN	SCALE NONE	

CP050 PIG REMOTE I/O PANEL
TERMINAL LAYOUT & LEGENDS
DESERT VIEW POWER UNIT A & B
MECCA, CA

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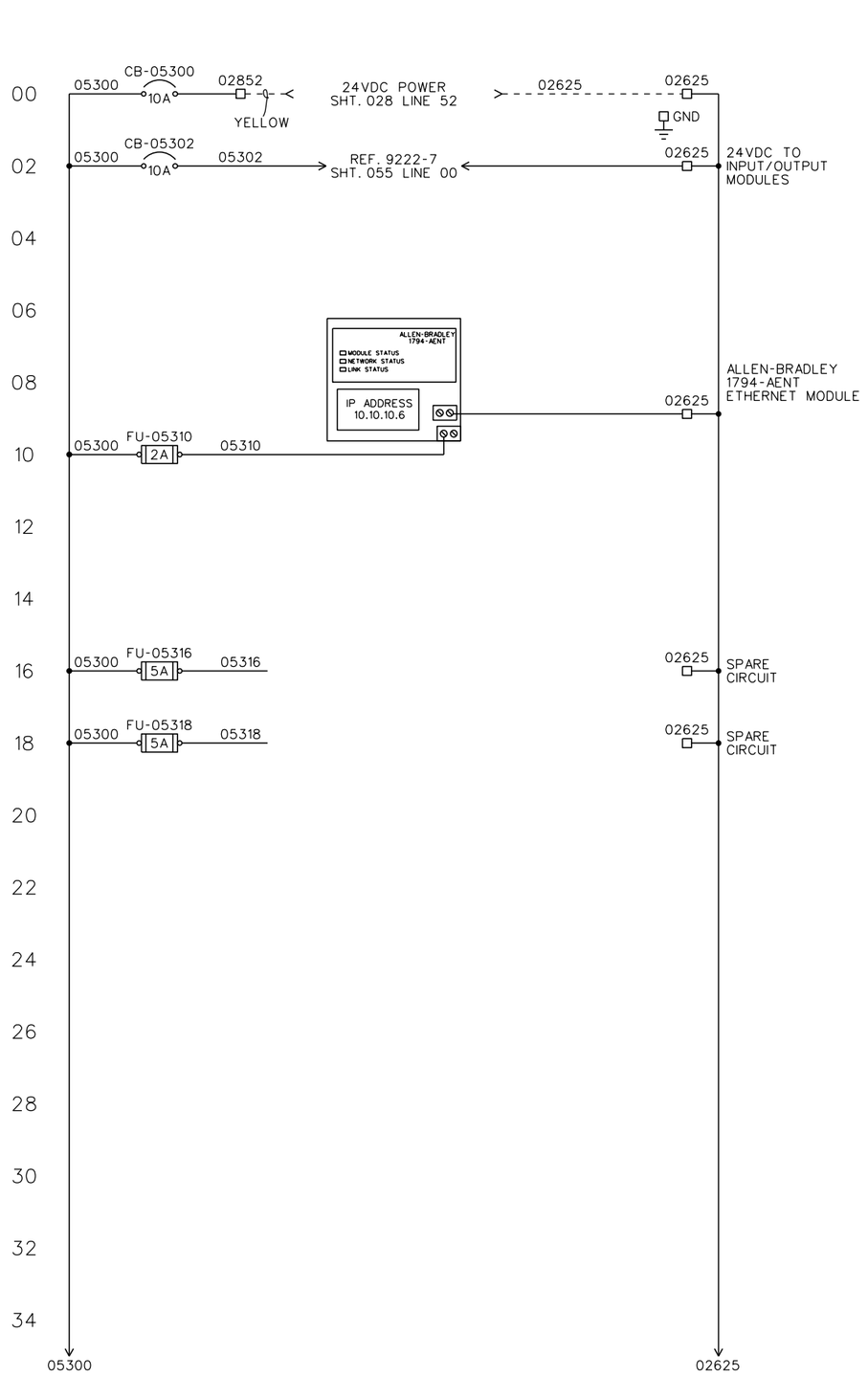

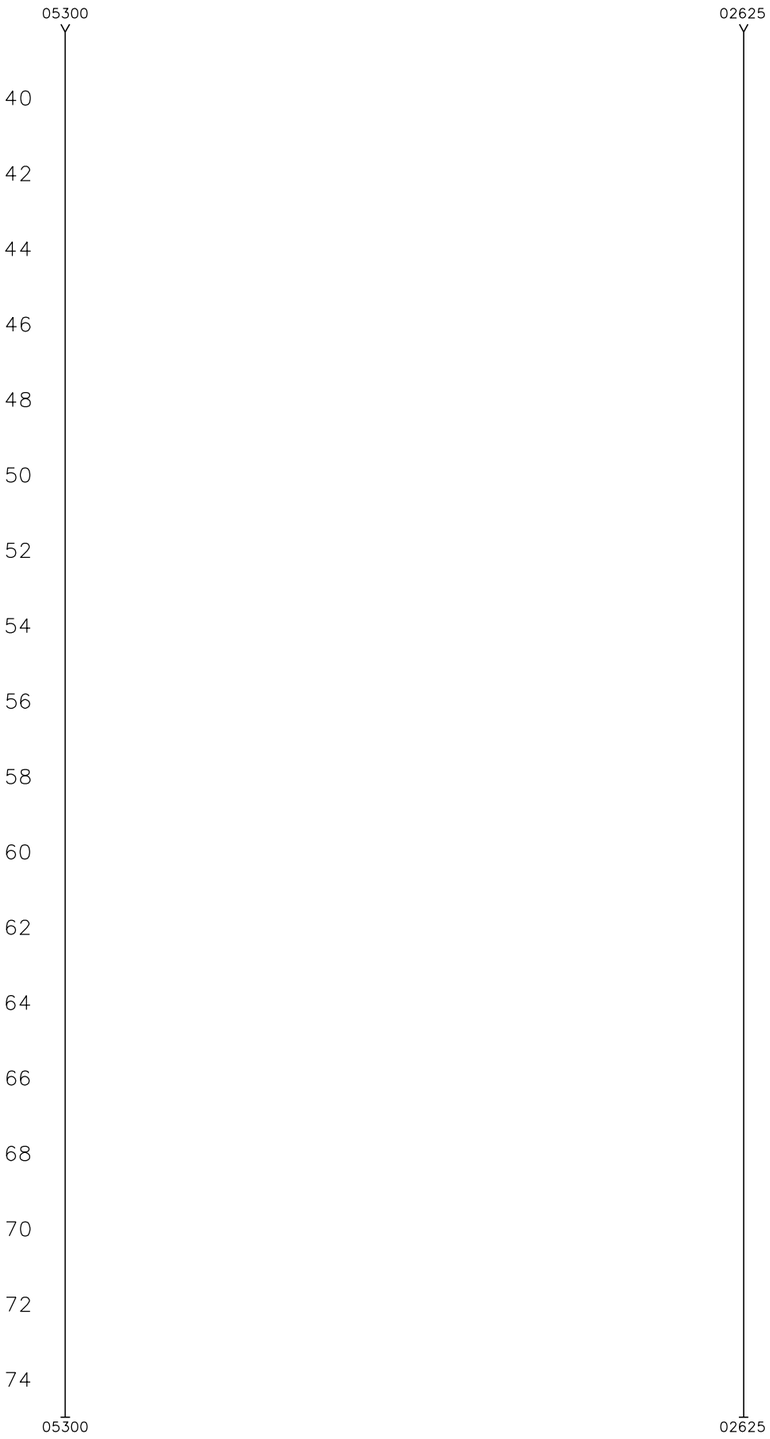

					CP050 PIG REMOTE I/O PANEL		
					24VDC POWER SUPPLY		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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9222A-7-053

SHEET 54 IS RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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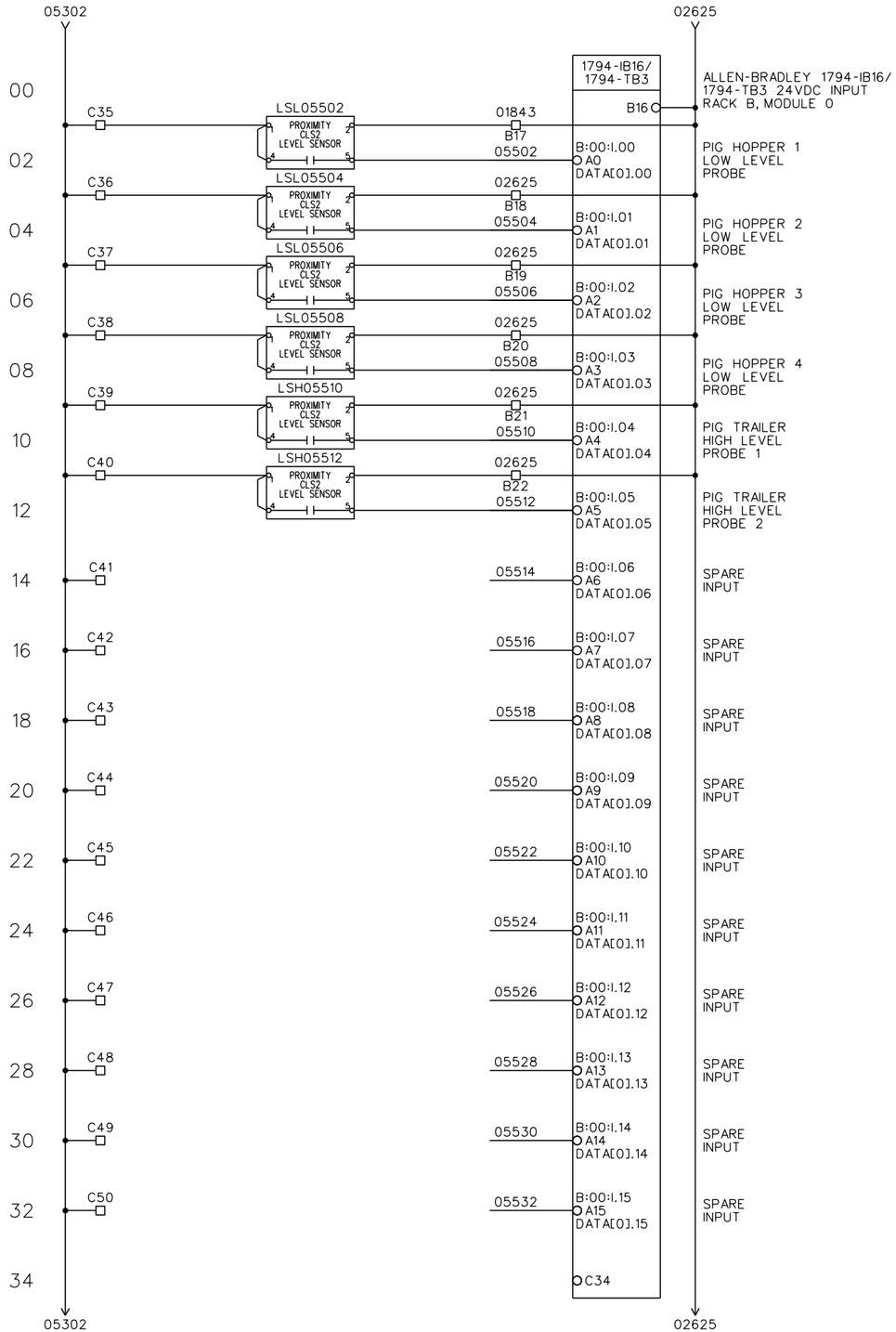
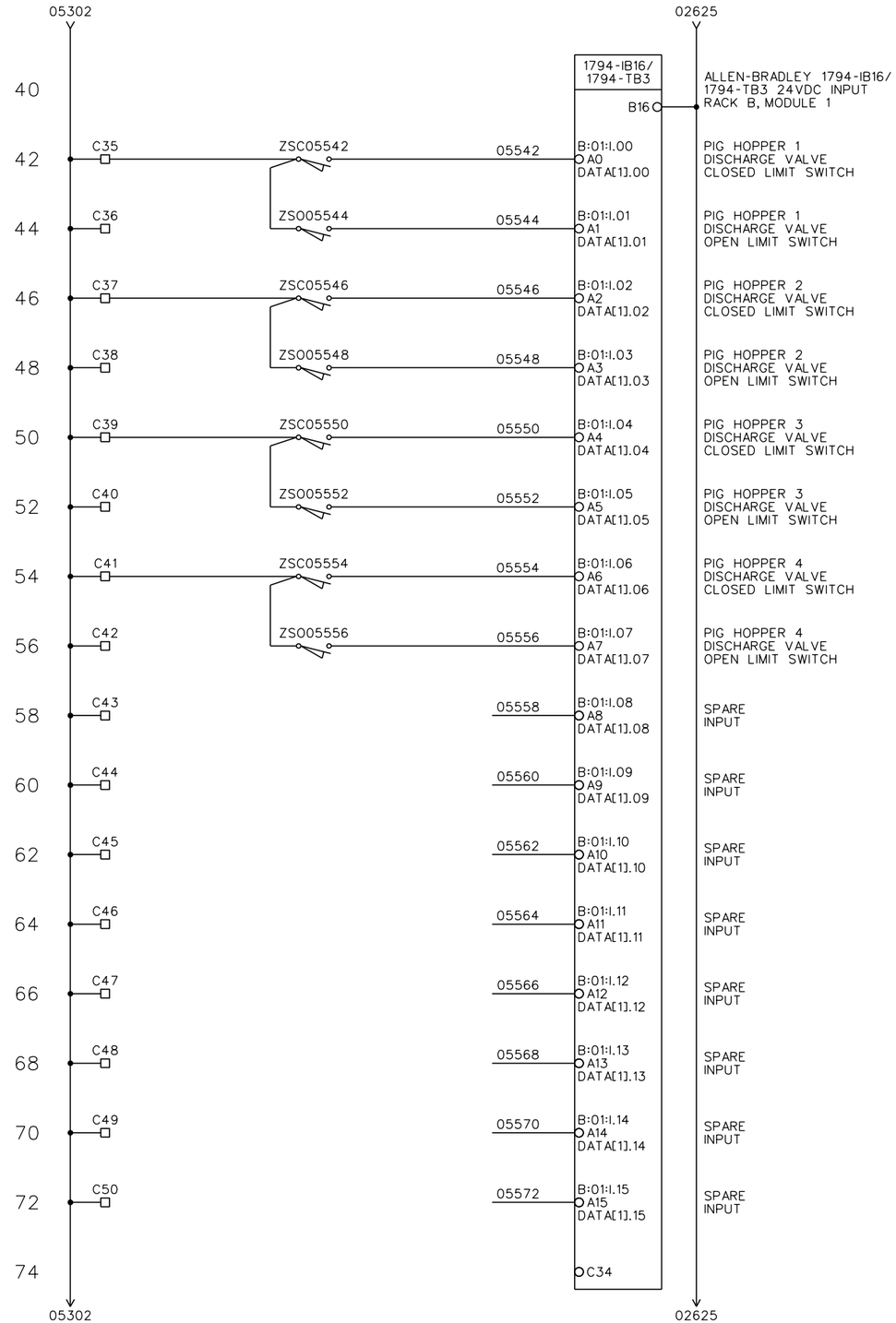
DRAWING NO. 9222A-7-054





REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

CP050 PIG REMOTE I/O PANEL
I/O WIRING DIAGRAM MODULE 0 & 1
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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DRAWING NO. 9222A-7-055

05302

FU-05600 5A

1794-OB16/ 1794-TB3

00	B16	02625			ALLEN-BRADLEY 1794-OB16/ 1794-TB3 24VDC OUTPUT RACK B, MODULE 2
02	B:02:0.00 A0 DATA[2].00	05602	XV05602	B17	PIG HOPPER AERATION SOLENOID 1
04	B:02:0.01 A1 DATA[2].01	05604	XV05604	B18	PIG HOPPER AERATION SOLENOID 2
06	B:02:0.02 A2 DATA[2].02	05606	XV05606	B19	IG HOPPER AERATION SOLENOID 3
08	B:02:0.03 A3 DATA[2].03	05608	XV05608	B20	PIG HOPPER AERATION SOLENOID 4
10	B:02:0.04 A4 DATA[2].04	05610	PL05610	B21	PIG HOPPER 1 LOW LEVEL PILOT LIGHT
12	B:02:0.05 A5 DATA[2].05	05612	PL05612	B22	PIG HOPPER 2 LOW LEVEL PILOT LIGHT
14	B:02:0.06 A6 DATA[2].06	05614	PL05614	B23	PIG HOPPER 3 LOW LEVEL PILOT LIGHT
16	B:02:0.07 A7 DATA[2].07	05616	PL05616	B24	PIG HOPPER 4 LOW LEVEL PILOT LIGHT
18	B:02:0.08 A8 DATA[2].08	05618	PL05618	B25	PIG HOPPER 1 HIGH LEVEL PILOT LIGHT
20	B:02:0.09 A9 DATA[2].09	05620	PL05620	B26	PIG HOPPER 2 HIGH LEVEL PILOT LIGHT
22	B:02:0.10 A10 DATA[2].10	05622		B27	SPARE OUTPUT
24	B:02:0.11 A11 DATA[2].11	05624		B28	SPARE OUTPUT
26	B:02:0.12 A12 DATA[2].12	05626		B29	SPARE OUTPUT
28	B:02:0.13 A13 DATA[2].13	05628		B30	SPARE OUTPUT
30	B:02:0.14 A14 DATA[2].14	05630		B31	SPARE OUTPUT
32	B:02:0.15 A15 DATA[2].15	05632		B32	SPARE OUTPUT
34	C34				

05600

02625

05302

FU-05640 5A

1794-OB16/ 1794-TB3

40	B16	02625			ALLEN-BRADLEY 1794-OB16/ 1794-TB3 24VDC OUTPUT RACK B, MODULE 3
42	B:03:0.00 A0 DATA[3].00	05642	XV05642	B17	PIG HOPPER 1 DISCHARGE VALVE SOLENOID
44	B:03:0.01 A1 DATA[3].01	05644	XV05644	B18	PIG HOPPER 2 DISCHARGE VALVE SOLENOID
46	B:03:0.02 A2 DATA[3].02	05646	XV05646	B19	PIG HOPPER 3 DISCHARGE VALVE SOLENOID
48	B:03:0.03 A3 DATA[3].03	05648	XV05648	B20	PIG HOPPER 4 DISCHARGE VALVE SOLENOID
50	B:03:0.04 A4 DATA[3].04	05650		B21	SPARE OUTPUT
52	B:03:0.05 A5 DATA[3].05	05652		B22	SPARE OUTPUT
54	B:03:0.06 A6 DATA[3].06	05654		B23	SPARE OUTPUT
56	B:03:0.07 A7 DATA[3].07	05656		B24	SPARE OUTPUT
58	B:03:0.08 A8 DATA[3].08	05658		B25	SPARE OUTPUT
60	B:03:0.09 A9 DATA[3].09	05660		B26	SPARE OUTPUT
62	B:03:0.10 A10 DATA[3].10	05662		B27	SPARE OUTPUT
64	B:03:0.11 A11 DATA[3].11	05664		B28	SPARE OUTPUT
66	B:03:0.12 A12 DATA[3].12	05666		B29	SPARE OUTPUT
68	B:03:0.13 A13 DATA[3].13	05668		B30	SPARE OUTPUT
70	B:03:0.14 A14 DATA[3].14	05670		B31	SPARE OUTPUT
72	B:03:0.15 A15 DATA[3].15	05672		B32	SPARE OUTPUT
74	C34				

05600

02625

					CP050 PIG REMOTE I/O PANEL		
					I/O WIRING DIAGRAM MODULE 2 & 3		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-056

SHEETS 57-59 ARE RESERVED FOR FUTURE USE

					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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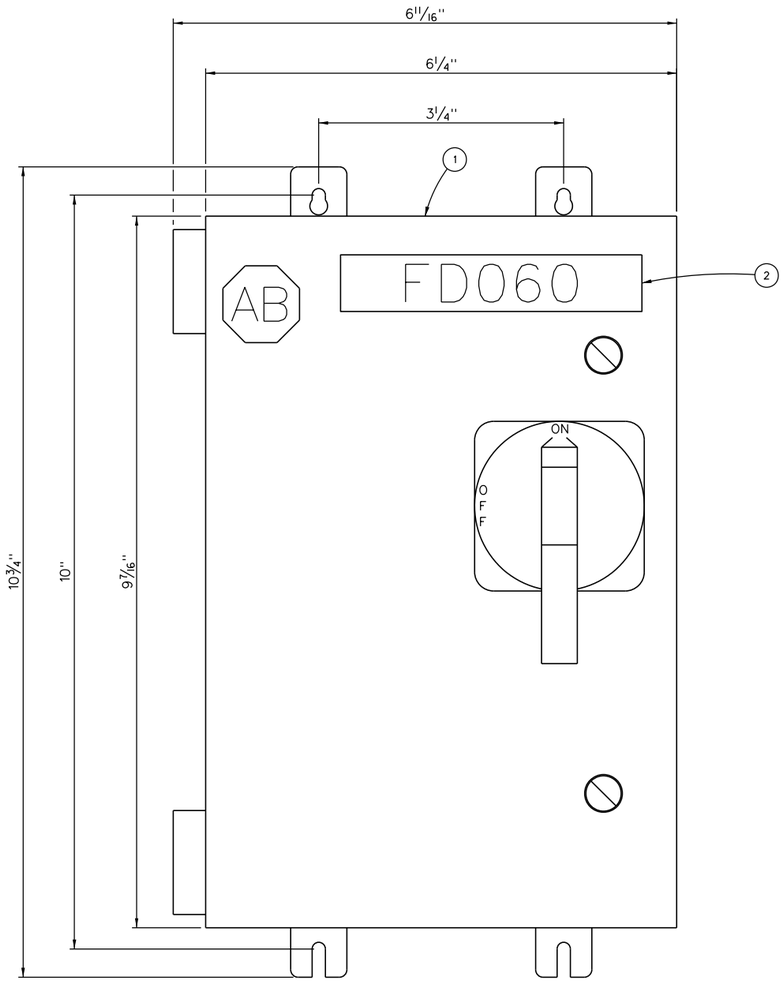
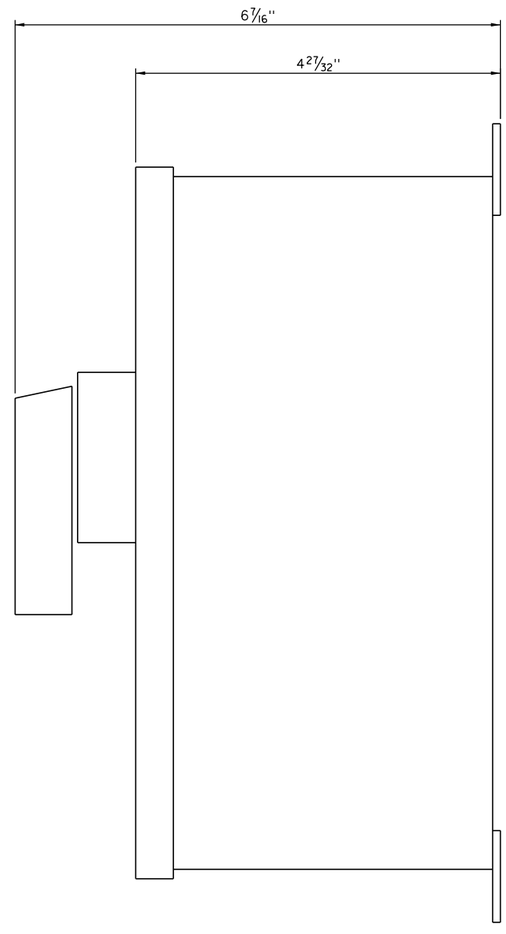
DRAWING NO. 9222A-7-057

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD060	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD060





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
					INJECTION BLOWER 1		
					FIELD DISCONNECT FD060		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

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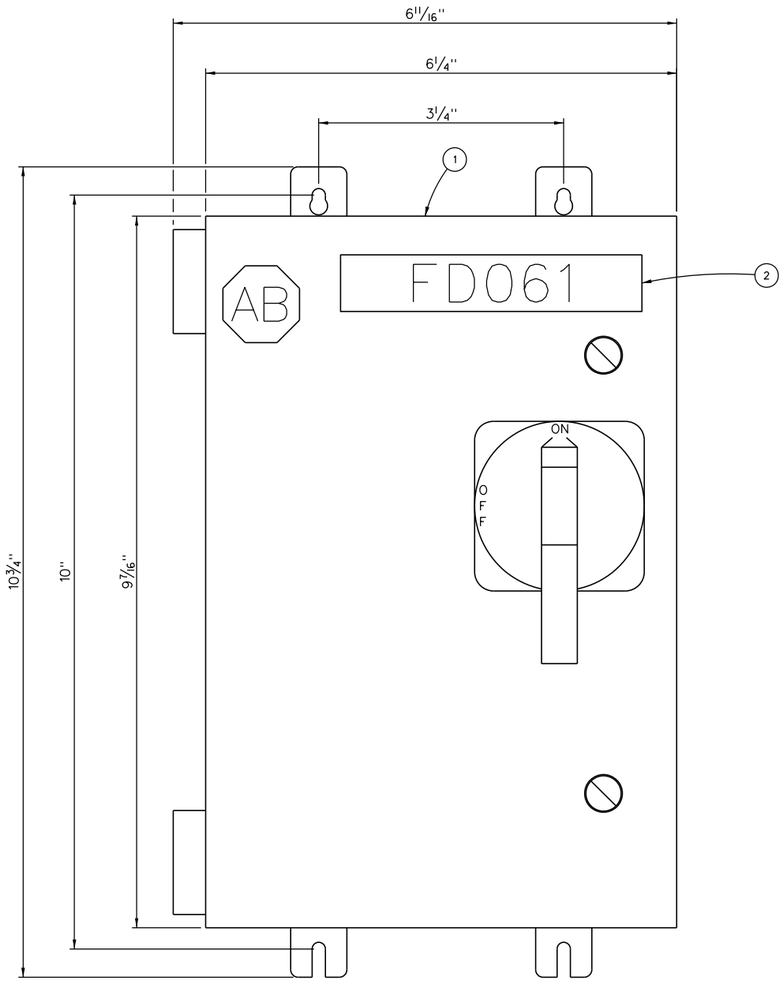
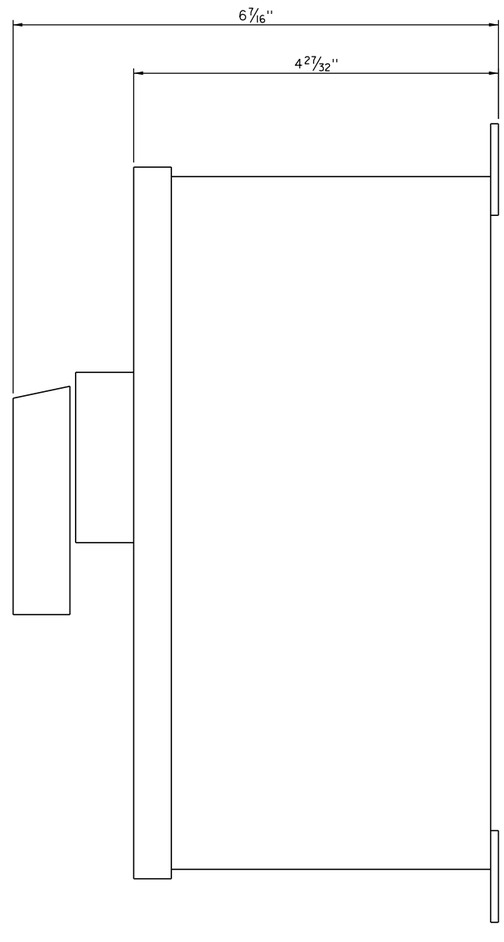
DRAWING NO. 9222A-7-060

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD061	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD061





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

INJECTION BLOWER 2
FIELD DISCONNECT FD061
DESERT VIEW POWER UNIT A & B
MECCA, CA

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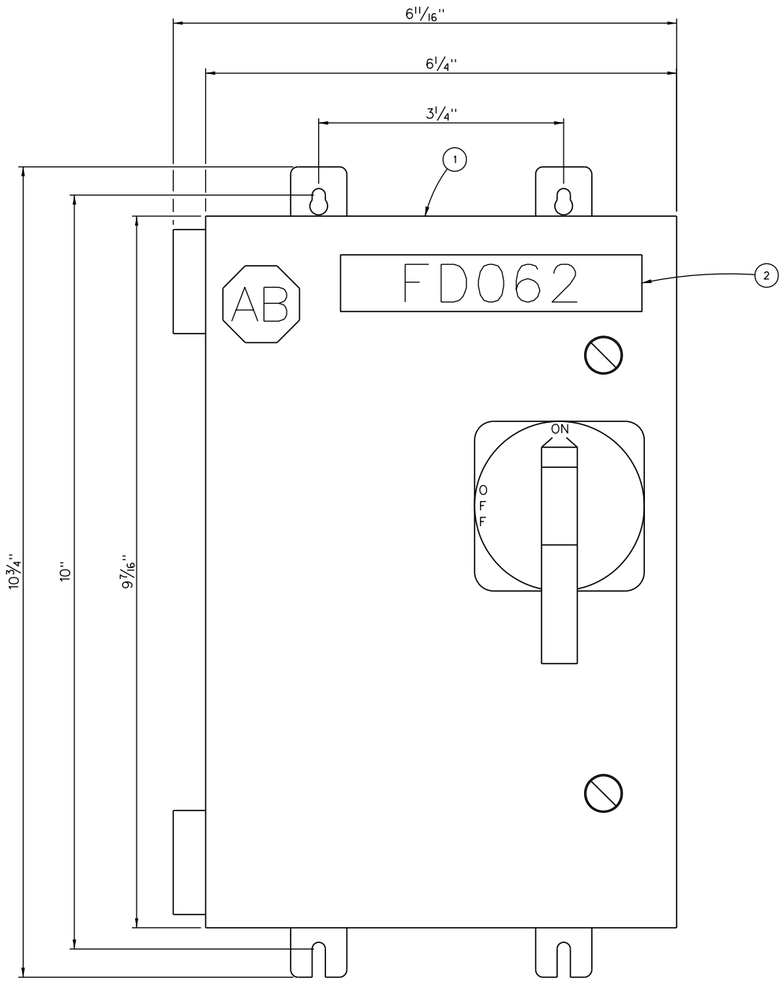
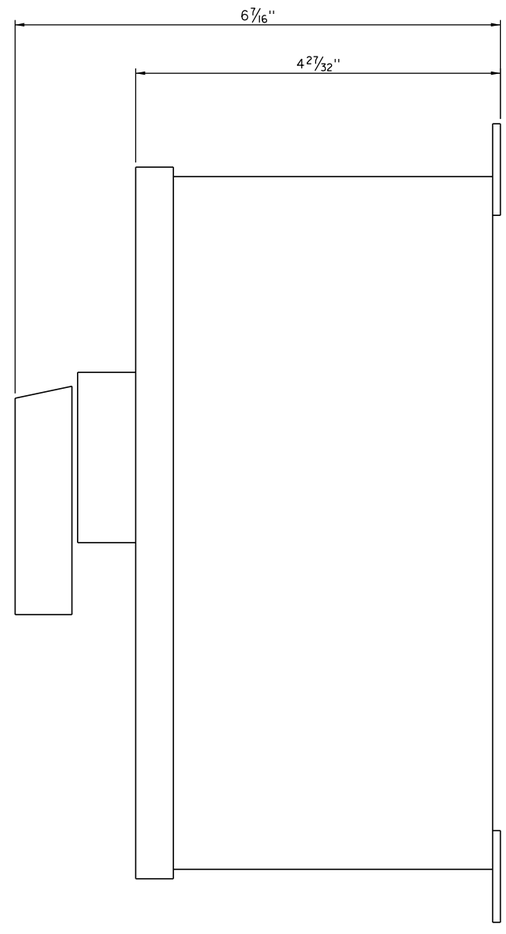
DRAWING NO. 9222A-7-061

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD062	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD062





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

PIG UNLOAD BLOWER
FIELD DISCONNECT FD062
DESERT VIEW POWER UNIT A & B
MECCA, CA

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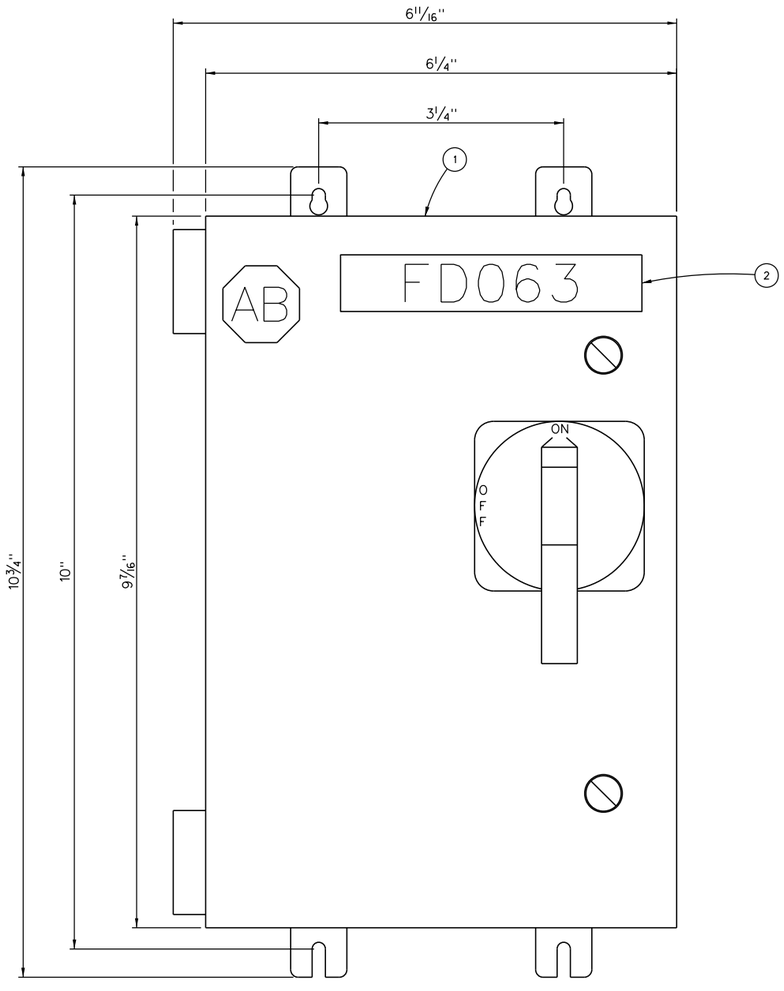
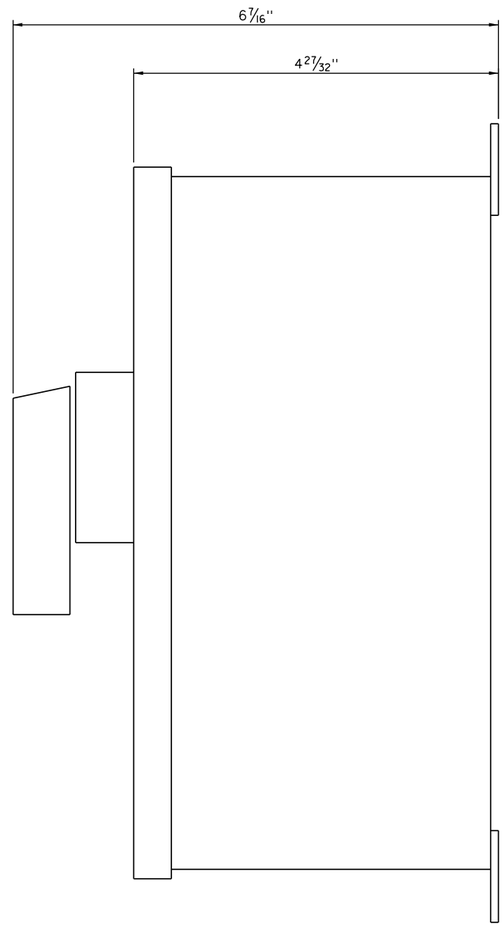
DRAWING NO. 9222A-7-062

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD063	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD063





REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

LIW HOPPER 1 FEEDER SCREW
FIELD DISCONNECT FD063
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.15 | CATALOG NO.
DESIGN BY J. BROWN | SCALE 1"=1"

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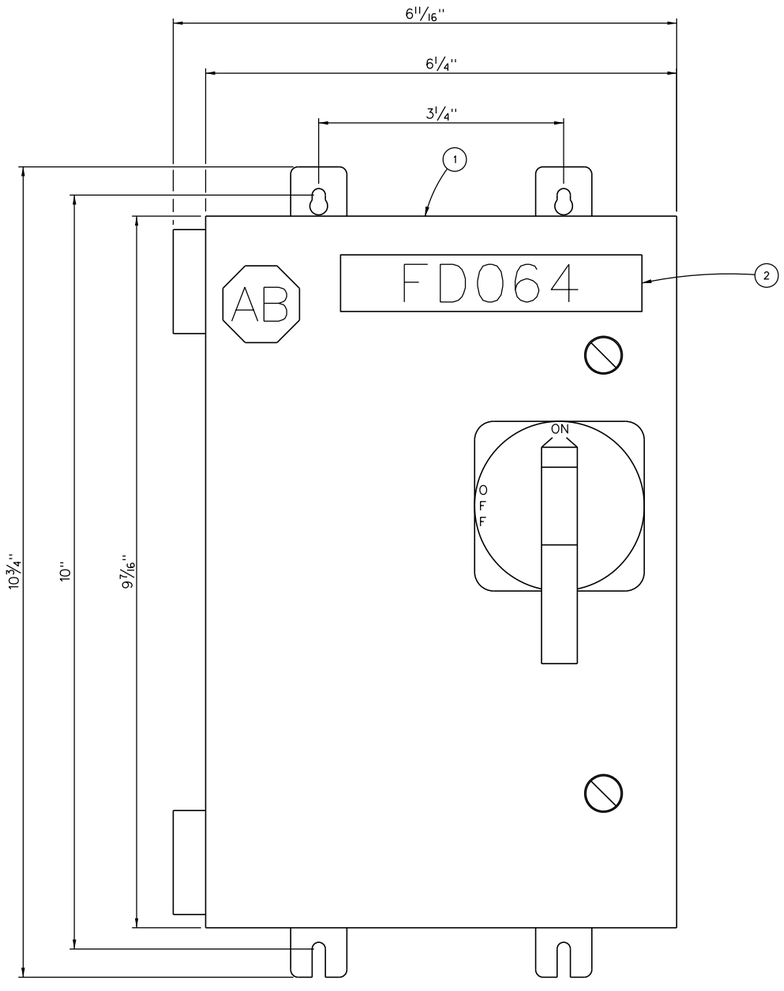
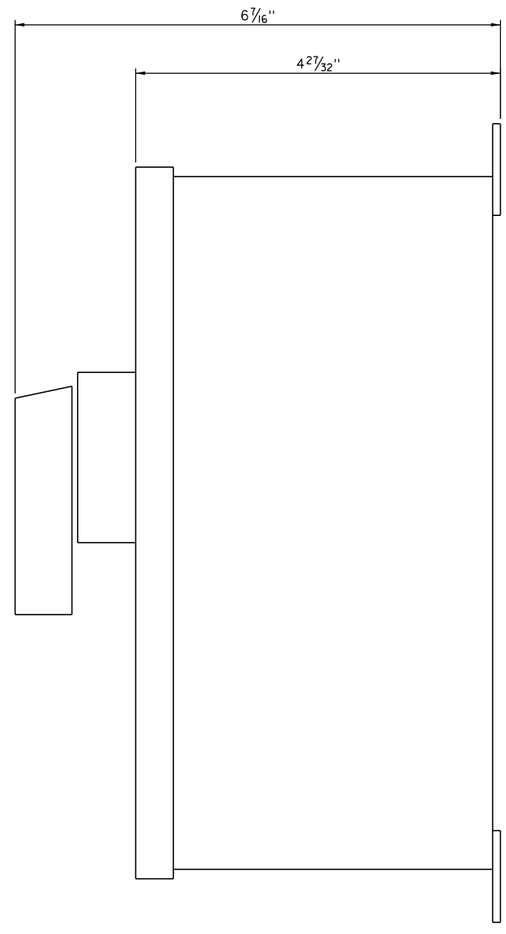
DRAWING NO. 9222A-7-063

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD064	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD064





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

LIW HOPPER 2 FEEDER SCREW
FIELD DISCONNECT FD064
DESERT VIEW POWER UNIT A & B
MECCA, CA

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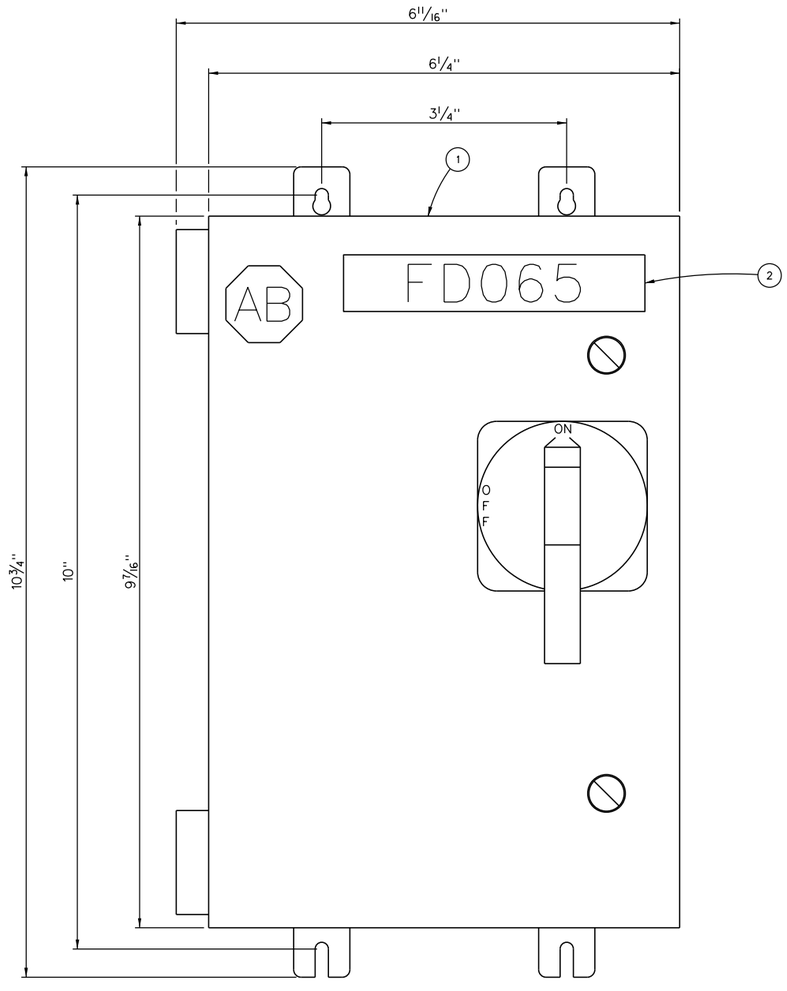
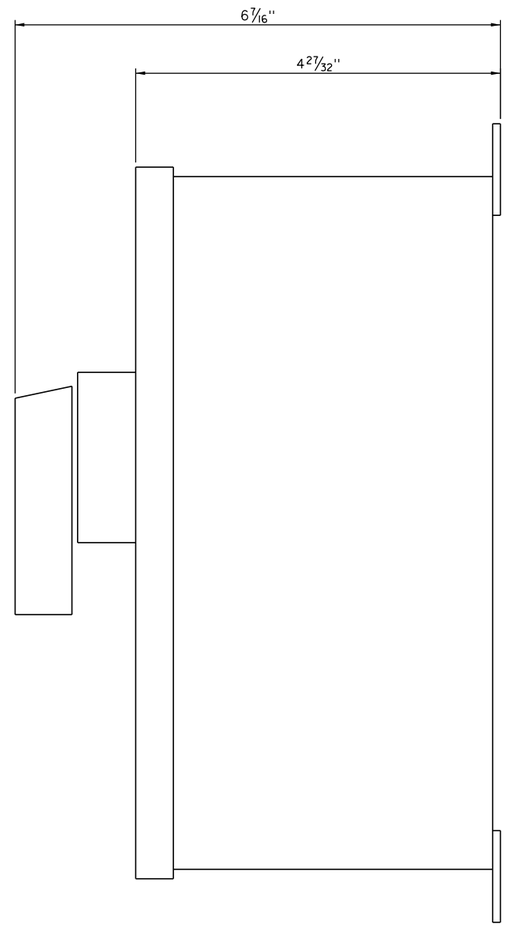
DRAWING NO. 9222A-7-064

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD065	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD065





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	HEAT EXCHANGER 1 FIELD DISCONNECT FD065 DESERT VIEW POWER UNIT A & B MECCA, CA		
					DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

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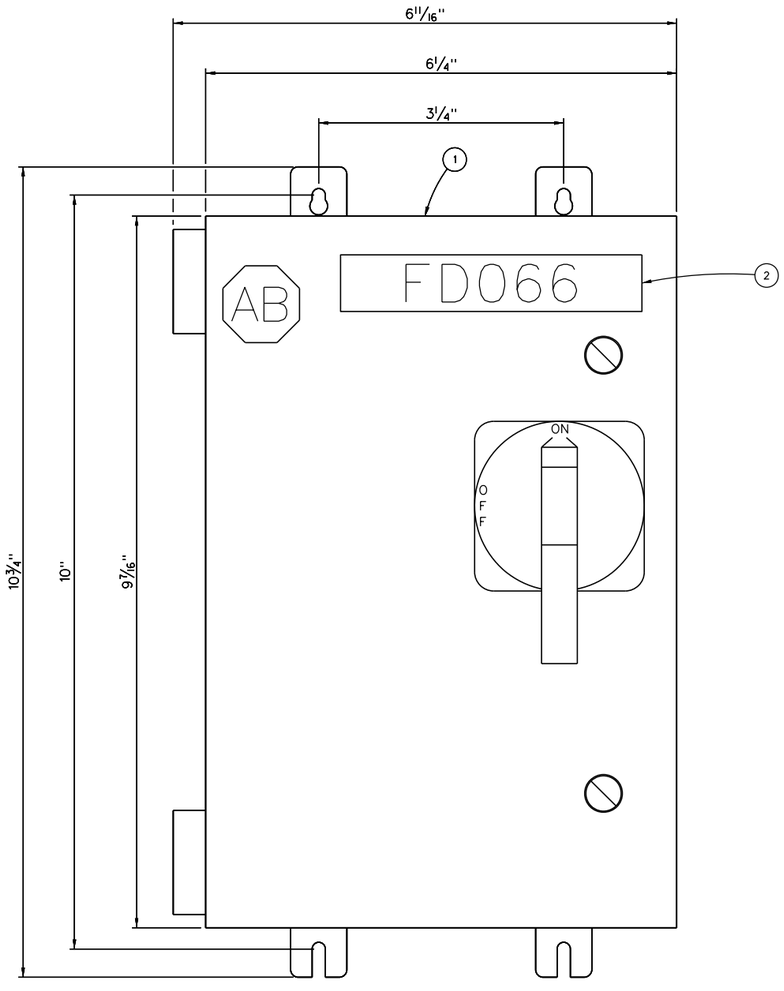
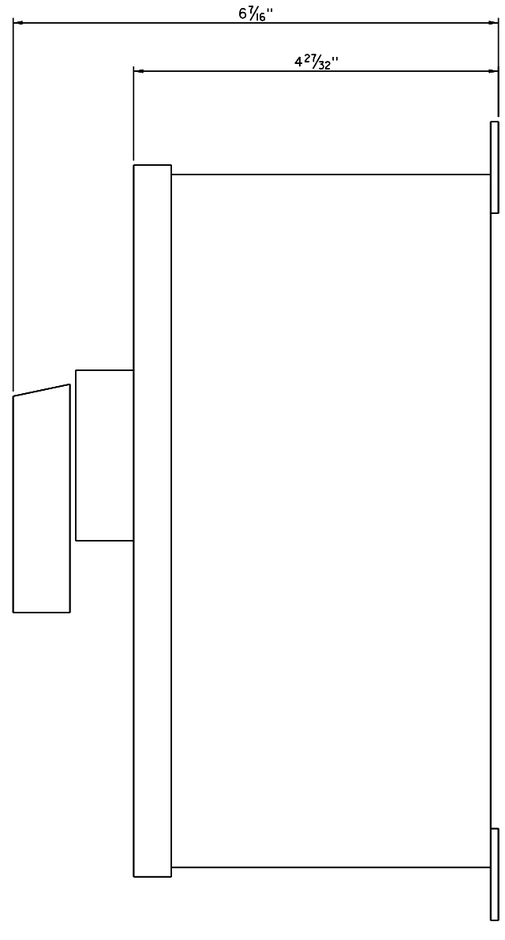
DRAWING NO. 9222A-7-065

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD066	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD066





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
					HEAT EXCHANGER 2		
					FIELD DISCONNECT FD066		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

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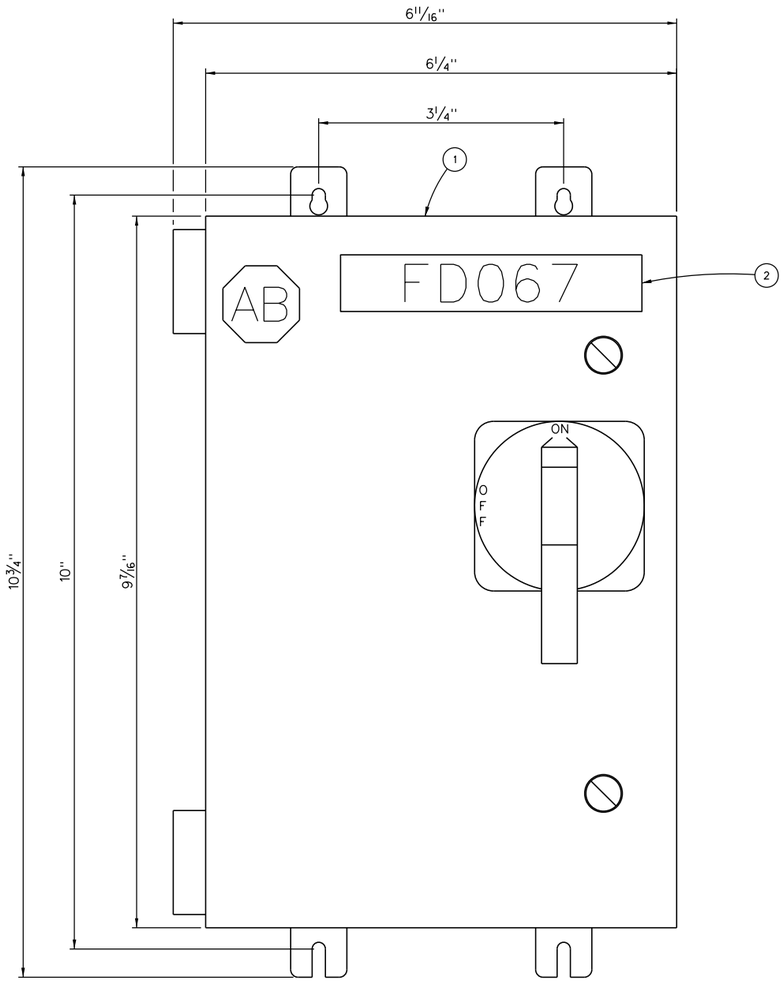
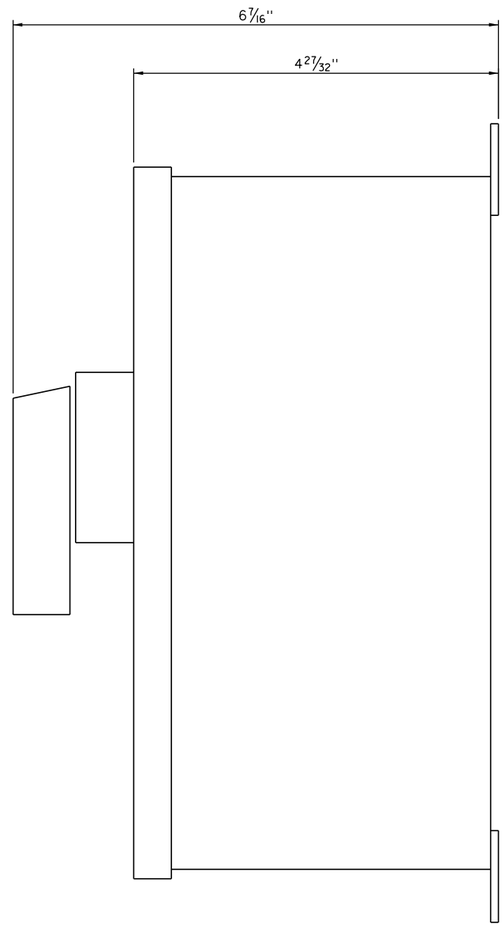
DRAWING NO. 9222A-7-066

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD067	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD067





					LIW HOPPER 1 AGITATOR		
					FIELD DISCONNECT FD067		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE 1"=1"	

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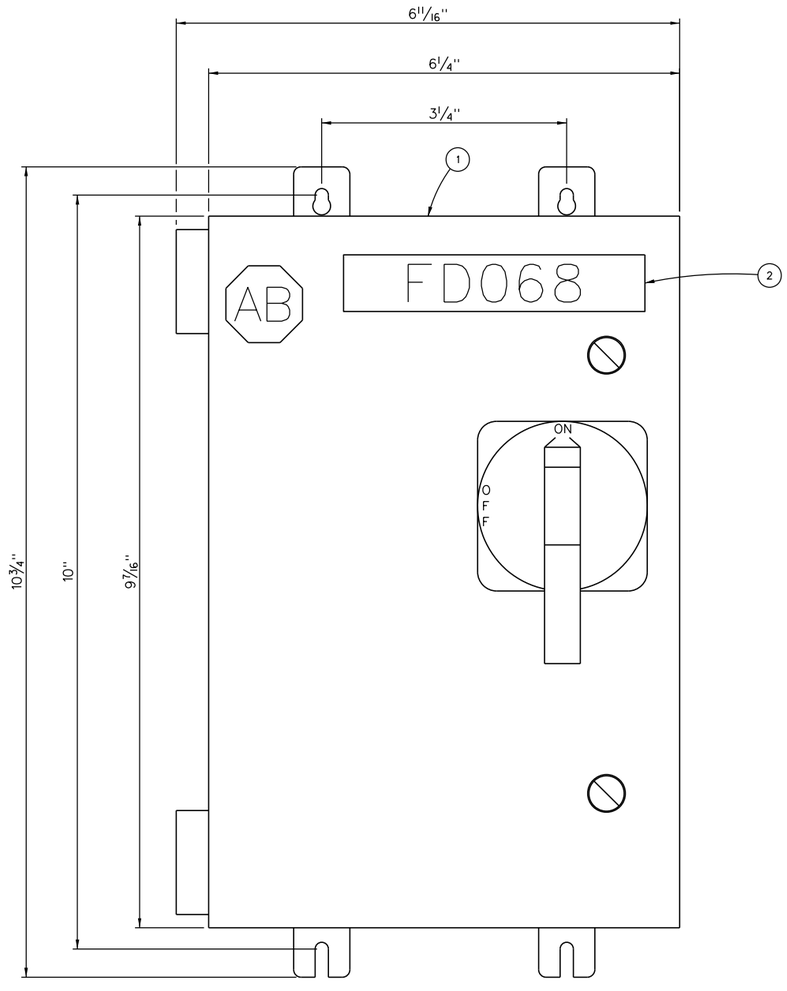
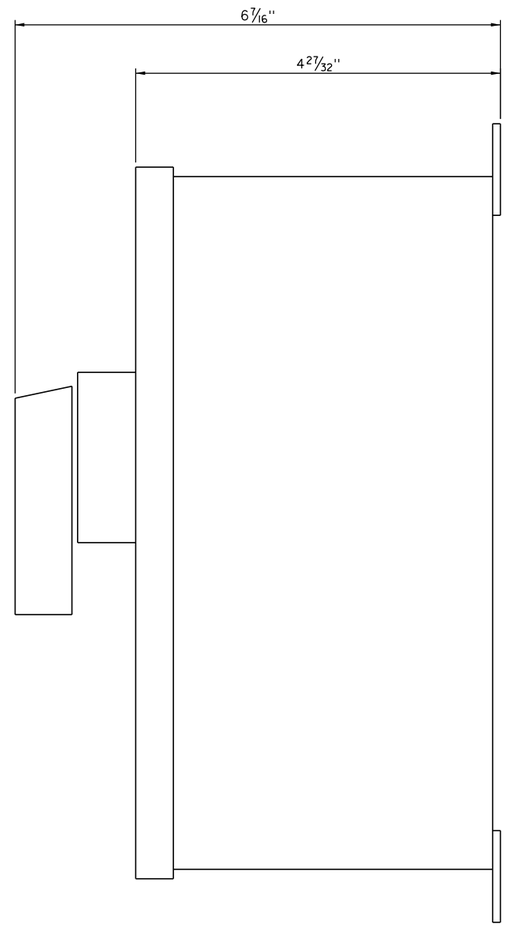
DRAWING NO. 9222A-7-067

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD068	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD068





					LIW HOPPER 2 AGITATOR		
					FIELD DISCONNECT FD068		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE 1"=1"	

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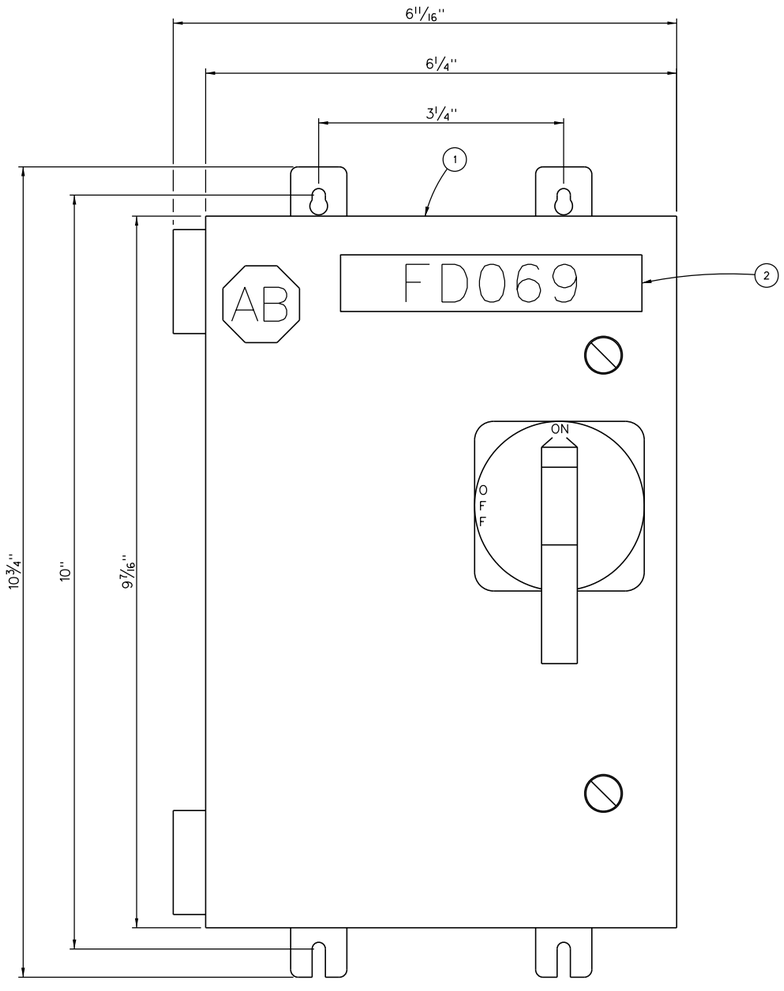
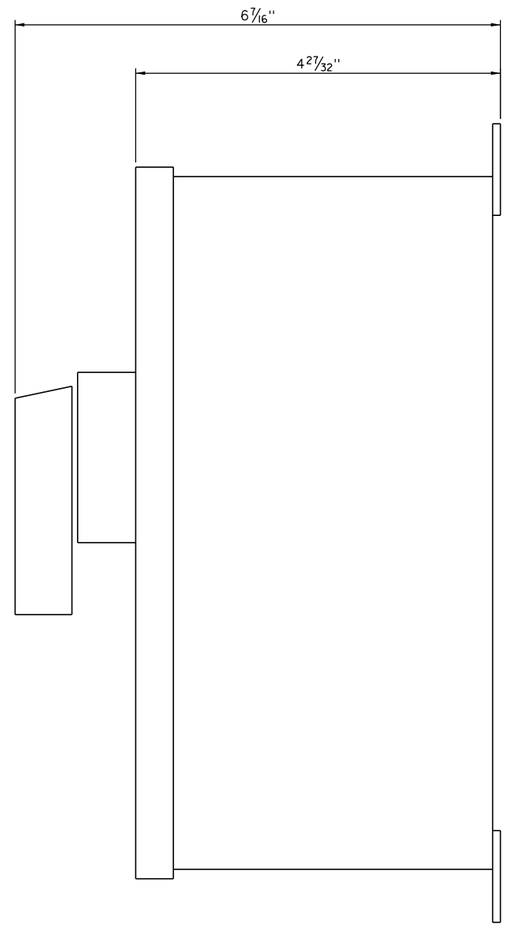
DRAWING NO. 9222A-7-068

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD069	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD069





					LW HOPPER 1 VENT HOPPER AIRLOCK			
					FIELD DISCONNECT FD069			
					DESERT VIEW POWER UNIT A & B			
					MECCA, CA			
0	06NOV16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.	DRAWING NO. 9222A-7-069
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE 1"=1"		

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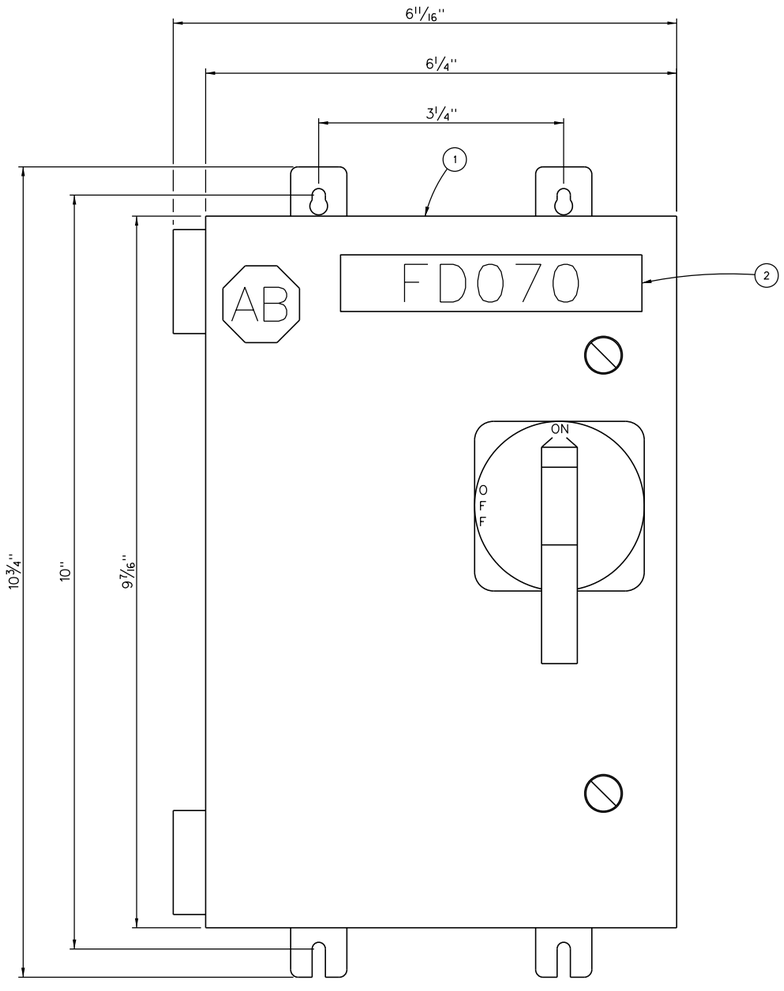
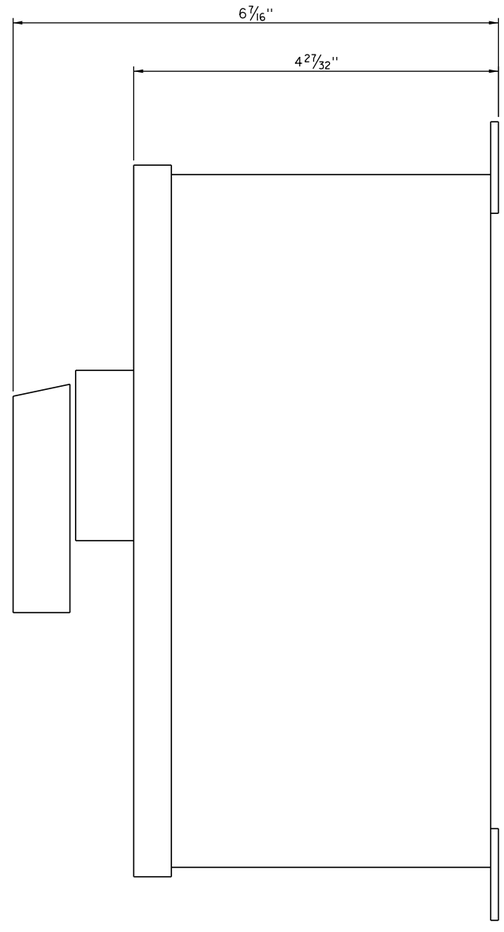
NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD070	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD070





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

LIW HOPPER 2 VENT HOPPER AIRLOCK
FIELD DISCONNECT FD070
DESERT VIEW POWER UNIT A & B
MECCA, CA

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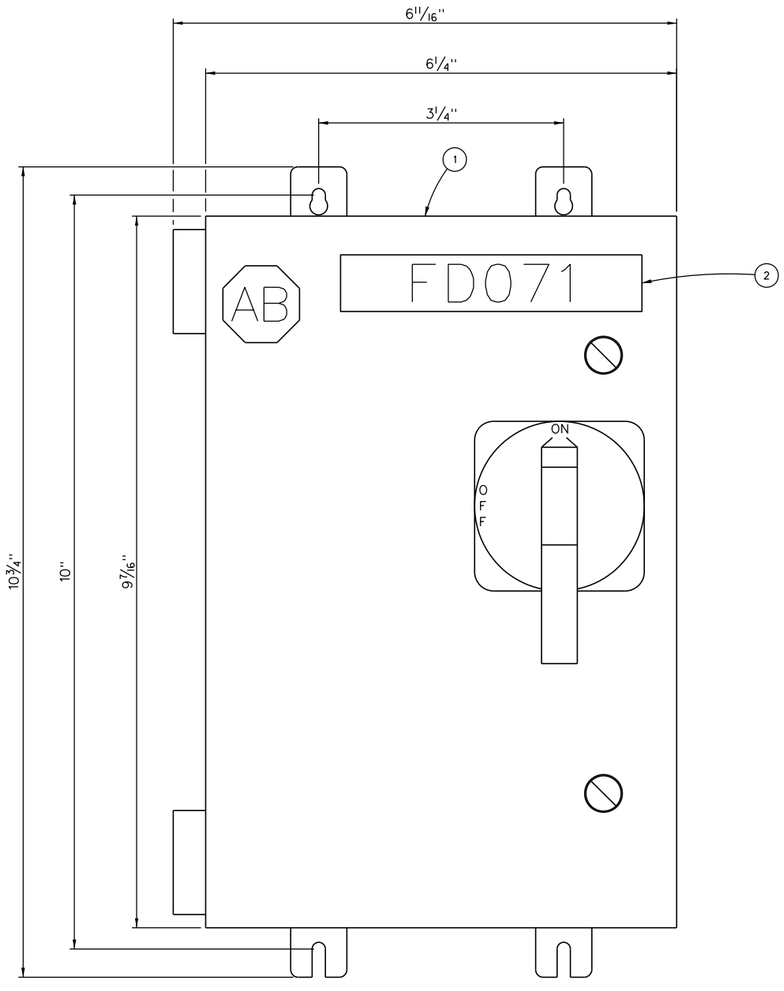
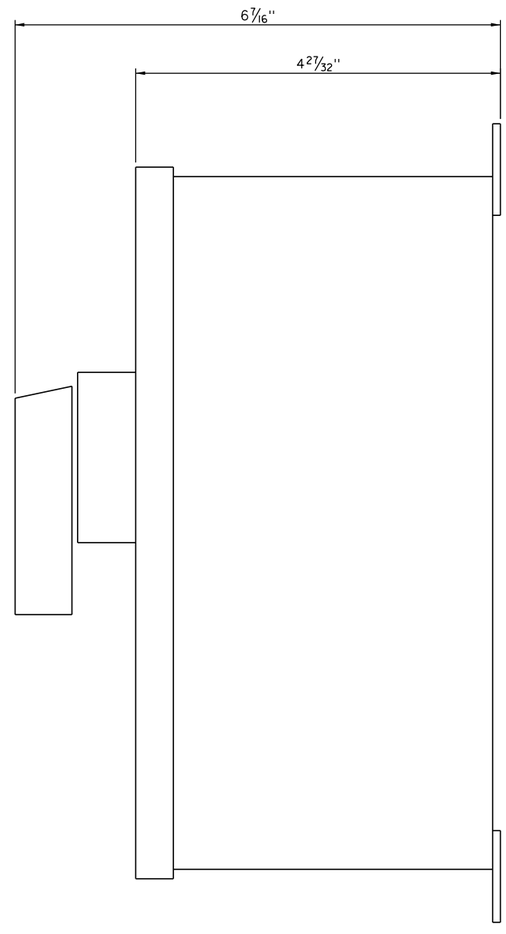
DRAWING NO. 9222A-7-070

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG *				
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.
1	1	UNFUSED DISCONNECT SWITCH 30 A	ALLEN BRADLEY	194R-CN30-1753-PY
2	1	LEGEND - AS REQUIRED BY JOB - PLASTIC	PER PRINT/LIST	LEGEND

LEGENDS FOR DOOR LAYOUT						
No.	Qty.	LINE *1	LINE *2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	FD071	.	3/4" x 4"	1/2"	WHITE	BLACK

1 FD071





REV	DATE	REVISION NOTE	DRAWN	DESIGN			
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
					DESIGN BY J. BROWN	SCALE 1"=1"	

DUST FILTER EXHAUST BLOWER
FIELD DISCONNECT FD071
DESERT VIEW POWER UNIT A & B
MECCA, CA

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DRAWING NO. 9222A-7-071

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					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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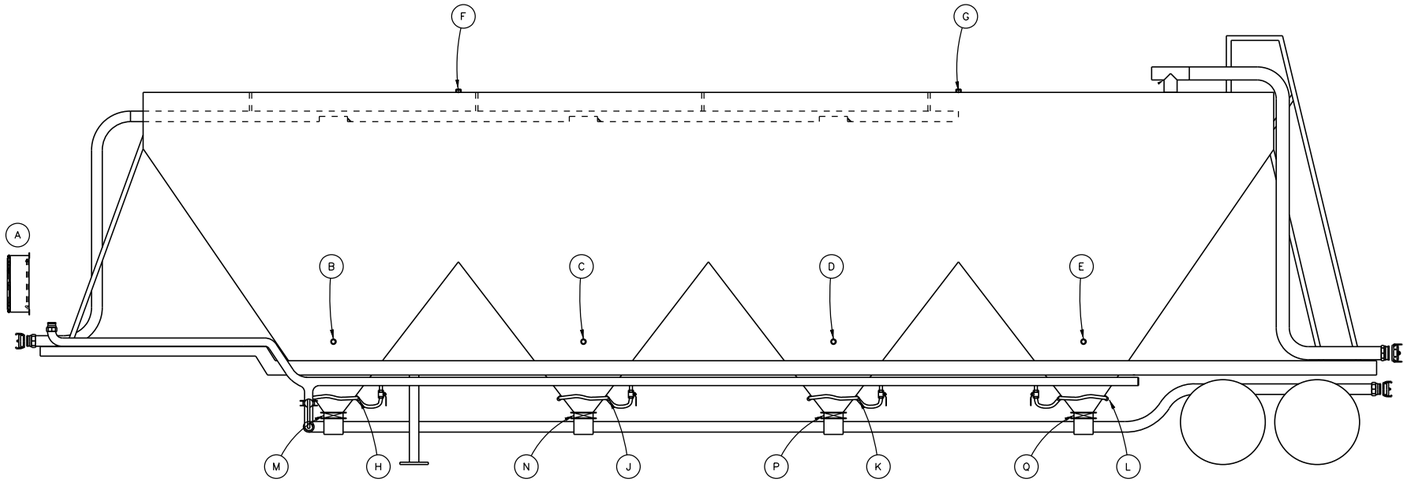
DRAWING NO. 9222A-7-072



PIG HOPPER

CP020
MOTOR CONTROL PANEL

CB-02852 — 02852
02625 — 02625
GND — GND

CP050 PIG REMOTE I/O PANEL
PRE-WIRED TERMINAL JUNCTION ENCLOSURE (A)

02852, 02625, GND

RACK B MOD 0: C35 05302, B17 02625, A0 05502, C36 05302, B18 02625, A1 05504, C37 05302, B19 02625, A2 05506, C38 05302, B20 02625, A3 05508, C39 05302, B21 02625, A4 05510, C40 05302, B22 02625, A5 05512

RACK B MOD 2: A0 05602, B17 02625, A1 05604, B18 02625, A2 05606, B19 02625, A3 05608, B20 02625

RACK B MOD 1: C35 05302, A0 05542, A1 05544

RACK B MOD 3: A0 05642, B17 02625

RACK B MOD 1: C37 05302, A2 05546, A3 05548

RACK B MOD 3: A1 05644, B18 02625

RACK B MOD 1: C39 05302, A4 05550, A5 05552

RACK B MOD 3: A2 05646, B19 02625

RACK B MOD 1: C41 05302, A6 05554, A7 05556

RACK B MOD 3: A3 05648, B20 02625

RACK B MOD 2:
- A4 05610 — 02625 — PL05610 PIG HOP. 1 LOW LVL
- B21 05612 — 02625 — PL05612 PIG HOP. 2 LOW LVL
- A5 05614 — 02625 — PL05614 PIG HOP. 3 LOW LVL
- B22 05616 — 02625 — PL05616 PIG HOP. 4 LOW LVL
- A6 05618 — 02625 — PL05618 PIG HOP. 1 HIGH LVL
- B23 05620 — 02625 — PL05620 PIG HOP. 2 HIGH LVL
- A7 B24 A8 B25 A9 B26

GND

PRE-WIRED BY NOL-TEC SYSTEMS

PIG UNLOAD 1 LOW LEVEL PROBE (B)
LSH05502: 05302, 02625, 05502, GND; 24 VDC; 1 2 3 NO; KEY ON
* NOL-TEC INSTALLED JUMPER

PIG UNLOAD 2 LOW LEVEL PROBE (C)
LSH05504: 05302, 02625, 05504, GND; 24 VDC; 1 2 3 NO; KEY ON
* NOL-TEC INSTALLED JUMPER

PIG UNLOAD 3 LOW LEVEL PROBE (D)
LSH05506: 05302, 02625, 05506, GND; 24 VDC; 1 2 3 NO; KEY ON
* NOL-TEC INSTALLED JUMPER

PIG UNLOAD 4 LOW LEVEL PROBE (E)
LSH05508: 05302, 02625, 05508, GND; 24 VDC; 1 2 3 NO; KEY ON
* NOL-TEC INSTALLED JUMPER

PIG TRAILER HIGH LEVEL PROBE 1 (F)
LSH05510: 05302, 02625, 05510, GND; 24 VDC; 1 2 3 NO; KEY ON
* NOL-TEC INSTALLED JUMPER

PIG TRAILER HIGH LEVEL PROBE 2 (G)
LSH05512: 05302, 02625, 05512, GND; 24 VDC; 1 2 3 NO; KEY ON
* NOL-TEC INSTALLED JUMPER

PIG HOPPER 1 AERATION SOLENOID (H)
XV05602: 05602, 02625, GND

PIG HOPPER 2 AERATION SOLENOID (J)
XV05604: 05604, 02625, GND

PIG HOPPER 3 AERATION SOLENOID (K)
XV05606: 05606, 02625, GND

PIG HOPPER 4 AERATION SOLENOID (L)
XV05608: 05608, 02625, GND

PIG HOPPER 1 DISCHARGE VALVE (M)
05302; 05542 — ZSC05542 CLOSED LS (SHOWN CLOSED); 05544 — ZSO05544 OPEN LS; 02625; 05642 — XV05642 OPEN SOL; GND (G)
* NOL-TEC INSTALLED JUMPER

PIG HOPPER 2 DISCHARGE VALVE (N)
05302; 05546 — ZSC05546 CLOSED LS (SHOWN CLOSED); 05548 — ZSO05548 OPEN LS; 02625; 05644 — XV05644 OPEN SOL; GND (G)
* NOL-TEC INSTALLED JUMPER

PIG HOPPER 3 DISCHARGE VALVE (P)
05302; 05550 — ZSC05550 CLOSED LS (SHOWN CLOSED); 05552 — ZSO05552 OPEN LS; 02625; 05646 — XV05646 OPEN SOL; GND (G)
* NOL-TEC INSTALLED JUMPER

PIG HOPPER 4 DISCHARGE VALVE (Q)
05302; 05554 — ZSC05554 CLOSED LS (SHOWN CLOSED); 05556 — ZSO05556 OPEN LS; 02625; 05648 — XV05648 OPEN SOL; GND (G)
* NOL-TEC INSTALLED JUMPER

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

PIG HOPPER
FIELD WIRING
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.15 — CATALOG NO.
DESIGN BY J. BROWN — SCALE NONE

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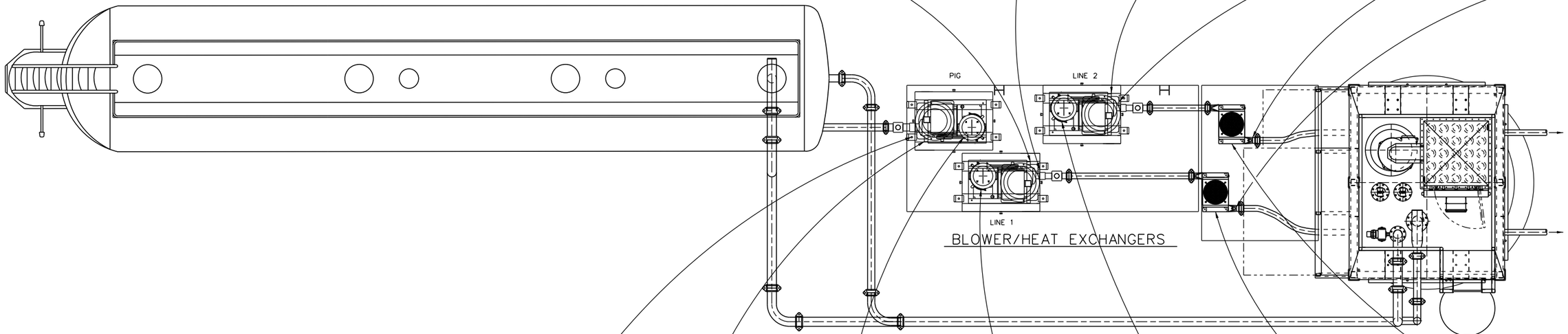
DRAWING NO. 9222A-7-080



INJECTION BLOWER 1 PRESSURE TRANSMITTER	INJECTION BLOWER 1 TEMPERATURE TRANS.	INJECTION BLOWER 2 PRESSURE TRANSMITTER	INJECTION BLOWER 2 TEMPERATURE TRANS.	HEAT EXCHANGER 2 TEMPERATURE TRANS.	HEAT EXCHANGER 1 TEMPERATURE TRANS.
PT004414	TT004418	PT004454	TT004458	TT004462	TT004422
03414	03414	03414	03414	03414	03414
04414	04418	04454	04458	04462	04422
SHLD	SHLD	SHLD	SHLD	SHLD	SHLD
1(+) 2(-)	1(+) 2(-)	1(+) 2(-)	1(+) 2(-)	1(+) 2(-)	1(+) 2(-)

PIG UNLOAD BLOWER TEMPERATURE TRANSMITTER	PIG UNLOAD BLOWER PRESSURE TRANSMITTER
TT004446	PT004442
03414	03414
04446	04442
SHLD	SHLD
1(+) 2(-)	1(+) 2(-)

PIG UNLOAD BLOWER MOTOR FIELD DISCONNECT	INJECTION BLOWER 1 MOTOR FIELD DISCONNECT	INJECTION BLOWER 2 MOTOR FIELD DISCONNECT	HEAT EXCHANGER 1 MOTOR FIELD DISCONNECT	HEAT EXCHANGER 2 MOTOR FIELD DISCONNECT
FD062	FD060	FD061	FD065	FD066
FIELD DISC.	FIELD DISC.	FIELD DISC.	FIELD DISC.	FIELD DISC.
02426A – 02426	02406A – 02406	02416A – 02416	02506A – 02506	02516A – 02516
02427A – 02427	02407A – 02407	02417A – 02417	02507A – 02507	02517A – 02517
02428A – 02428	02408A – 02408	02418A – 02418	02508A – 02508	02518A – 02518
03414 – 04170	03414 – 04142	03414 – 04242	03414 – 04144	03414 – 04244
20HP MTR	20HP MTR	20HP MTR	1HP MTR	1HP MTR
LOCATED NEAR MOTOR	LOCATED NEAR MOTOR	LOCATED NEAR MOTOR	LOCATED NEAR MOTOR	LOCATED NEAR MOTOR
REF. SHT. 24	REF. SHT. 24	REF. SHT. 24	REF. SHT. 25	REF. SHT. 25

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

BLOWER/HEAT EXCHANGERS
FIELD WIRING
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.15 — CATALOG NO.
DESIGN BY J. BROWN — SCALE NONE

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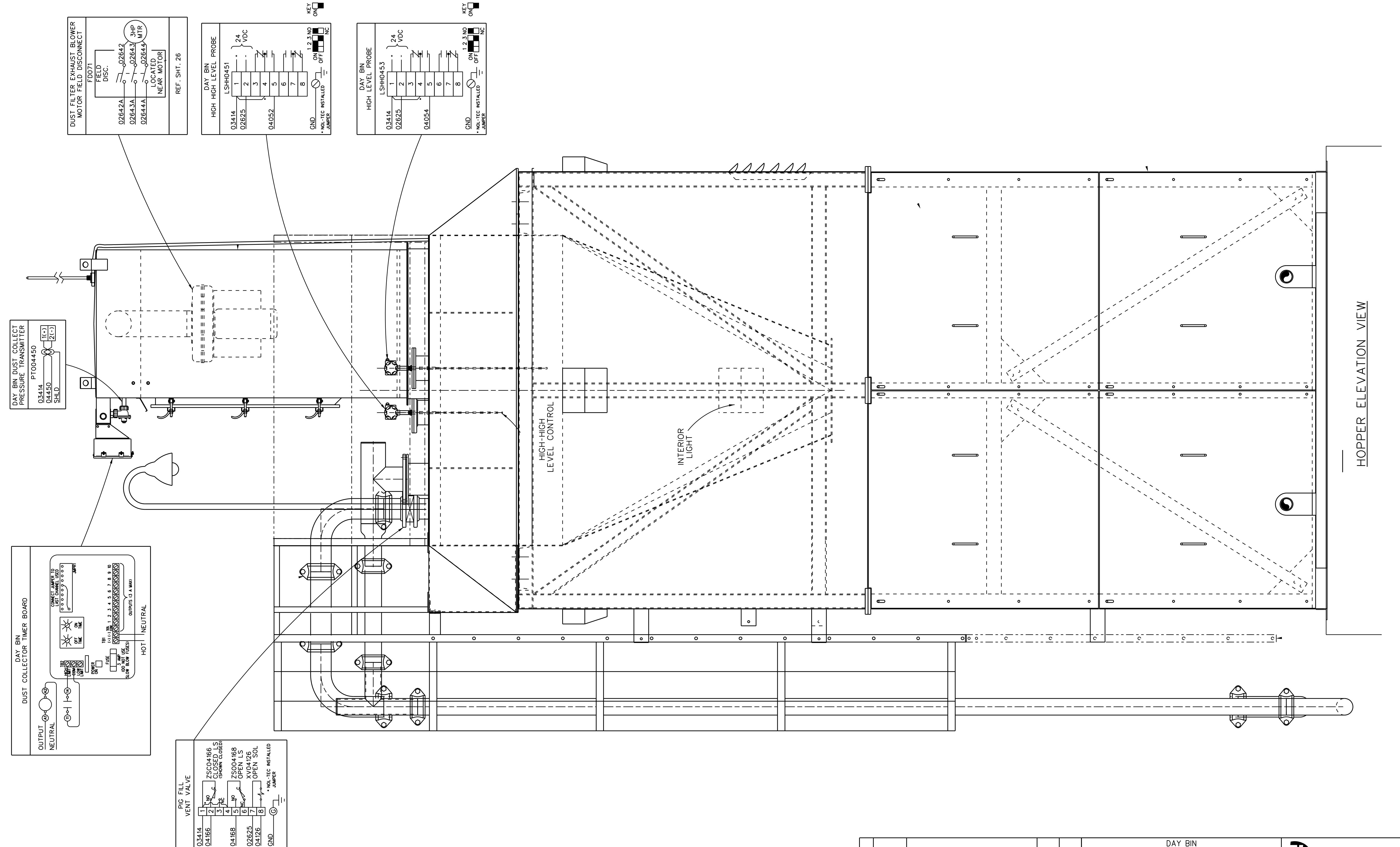
DRAWING NO. 9222A-7-081



					DAY BIN	
					FIELD WIRING	NOL-TEC SYSTEMS Lino Lakes, MN • USA www.nol-tec.com (651) 780-8600 ©2007
					DESERT VIEW POWER UNIT A & B	
					MECCA, CA	
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN · DATE 06.Aug.15 · CATALOG NO.	DRAWING NO. 9222A-7-082
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN · SCALE NONE	

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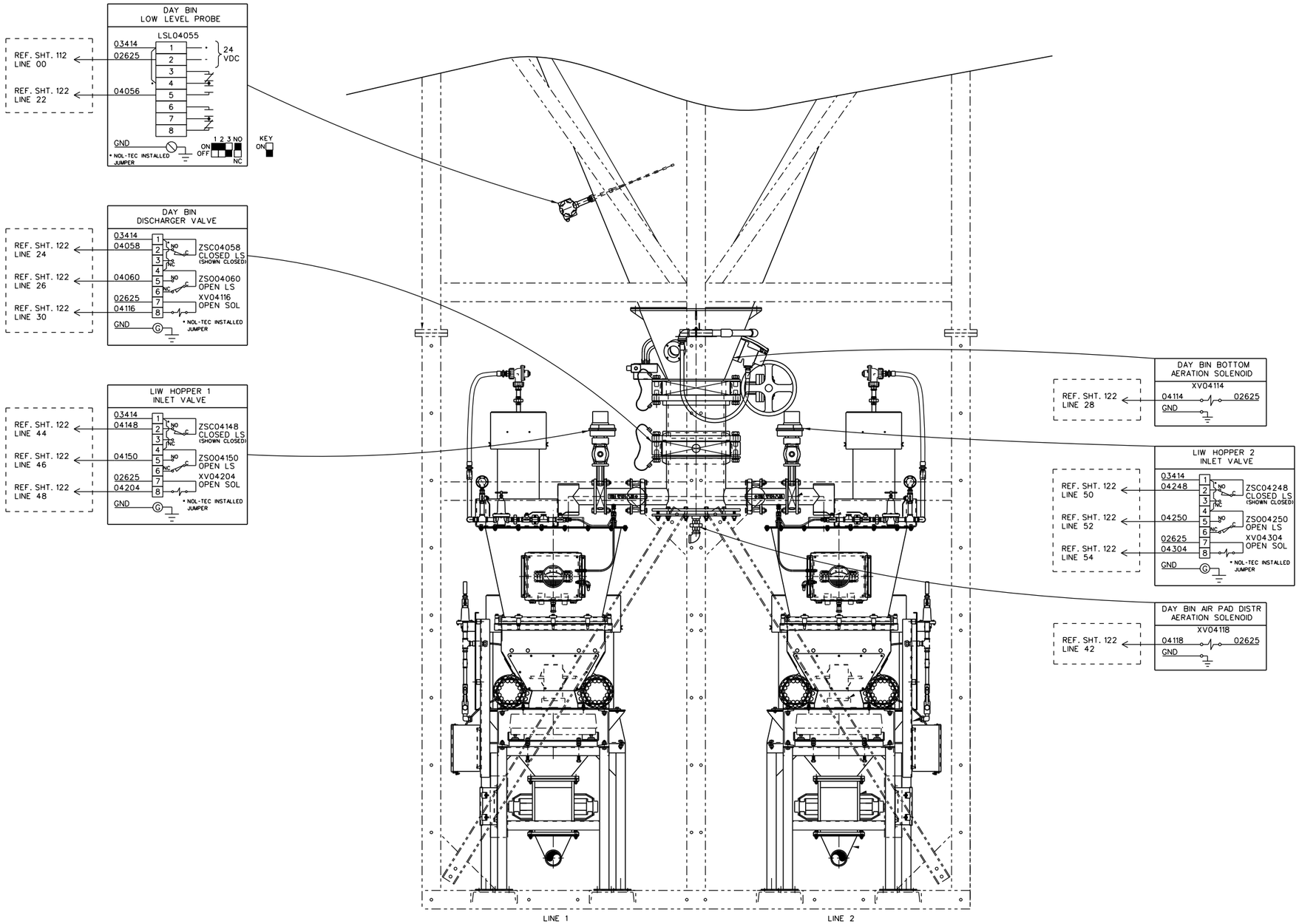

DAY BIN

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

DAY BIN
FIELD WIRING
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN — DATE 06.Aug.15
DESIGN BY J. BROWN — SCALE NONE
CATALOG NO.

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DRAWING NO. 9222A-7-083

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LIW VENT HOPPER 1
DUST FILTER SOLENOIDS

XV04210
04210 — 02625
XV04212
04212

LIW HOPPER 1
DUST FILTER SOLENOIDS

XV04206
04206 — 02625
XV04208
04208

LIW HOPPER 1
HIGH LEVEL PROBE

LSH04151
03414 — 1 (+)
02625 — 2 (−)
3
4
04152 — 5
6
7
8
24 VDC
GND
* NOL-TEC INSTALLED JUMPER
1 2 3 NO
ON
OFF
NC
KEY ON

LIW HOPPER 1 FEEDER SCREW
MOTOR FIELD DISCONNECT

FD063
FIELD DISC.
02446A — 02446
02447A — 02447 — .5HP MTR
02448A — 02448
03414 — 04154
LOCATED NEAR MOTOR

REF. SHT. 24

LIW HOPPER 1 AGITATOR
MOTOR FIELD DISCONNECT

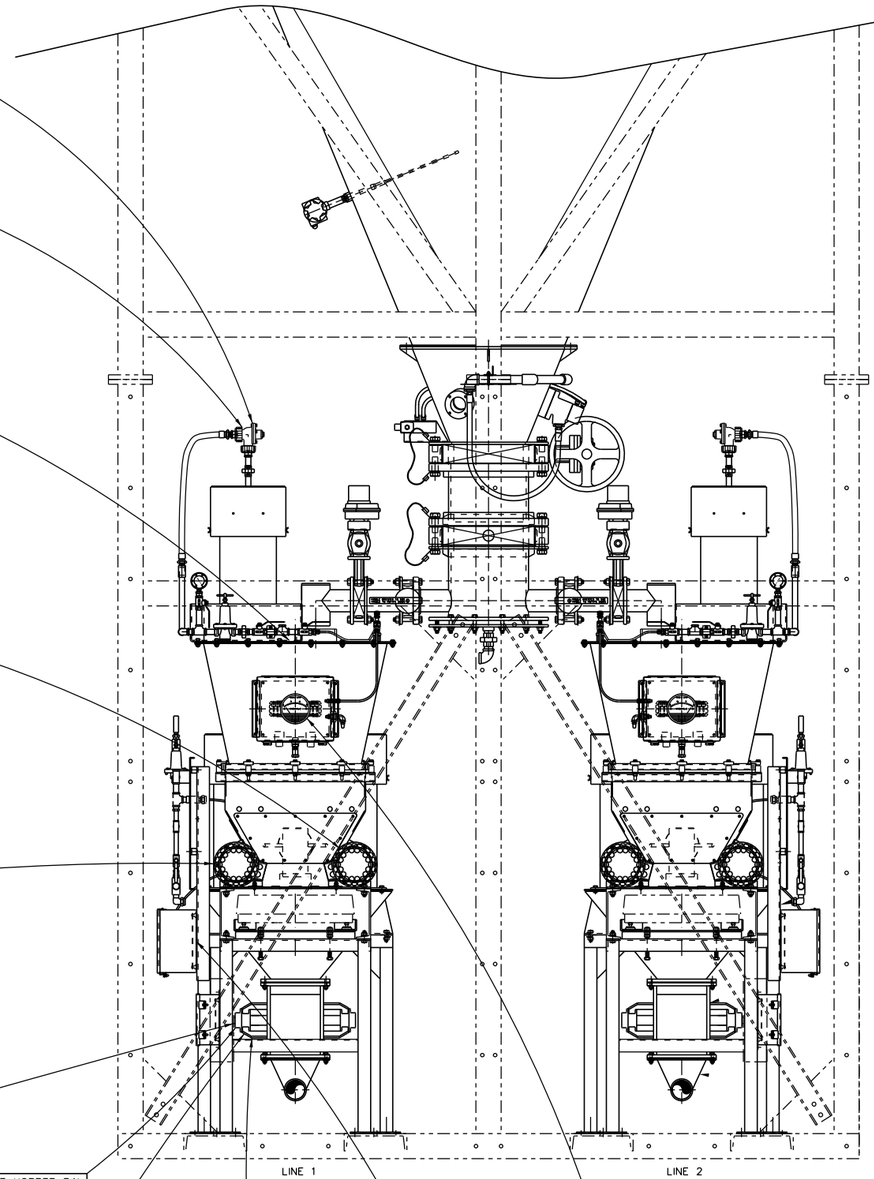
FD067
FIELD DISC.
02546A — 02546
02547A — 02547 — .5HP MTR
02548A — 02548
03414 — 04156
LOCATED NEAR MOTOR

REF. SHT. 25

LIW HOPPER 1 VENT HOPPER RAL
MOTOR FIELD DISCONNECT

FD069
FIELD DISC.
02602A — 02602
02603A — 02603 — .75HP MTR
02604A — 02604
03414 — 04548
LOCATED NEAR MOTOR

REF. SHT. 26



DAY BIN

LINE 1 VENT HOPPER RAL
ZERO SPEED SWITCH

SS04162
03414 — 04162

LIW VENT HOPPER 1 RAL
BEARING PURGE SOLENOID

XV04216
04216 — 02625
GND

LIW VENT HOPPER 1 RAL
POCKET PURGE SOLENOID

XV04218
04218 — 02625
GND

LIWF 1 VENT HOPPER
PRESSURE TRANSMITTER

PT04430
03414 — 1
04430 — 2
SHLD

LIWF 1 HOPPER
PRESSURE TRANSMITTER

PT04426
03414 — 1
04426 — 2
SHLD

					DAY BIN LINE 1		
					FIELD WIRING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO.
9222A-7-084

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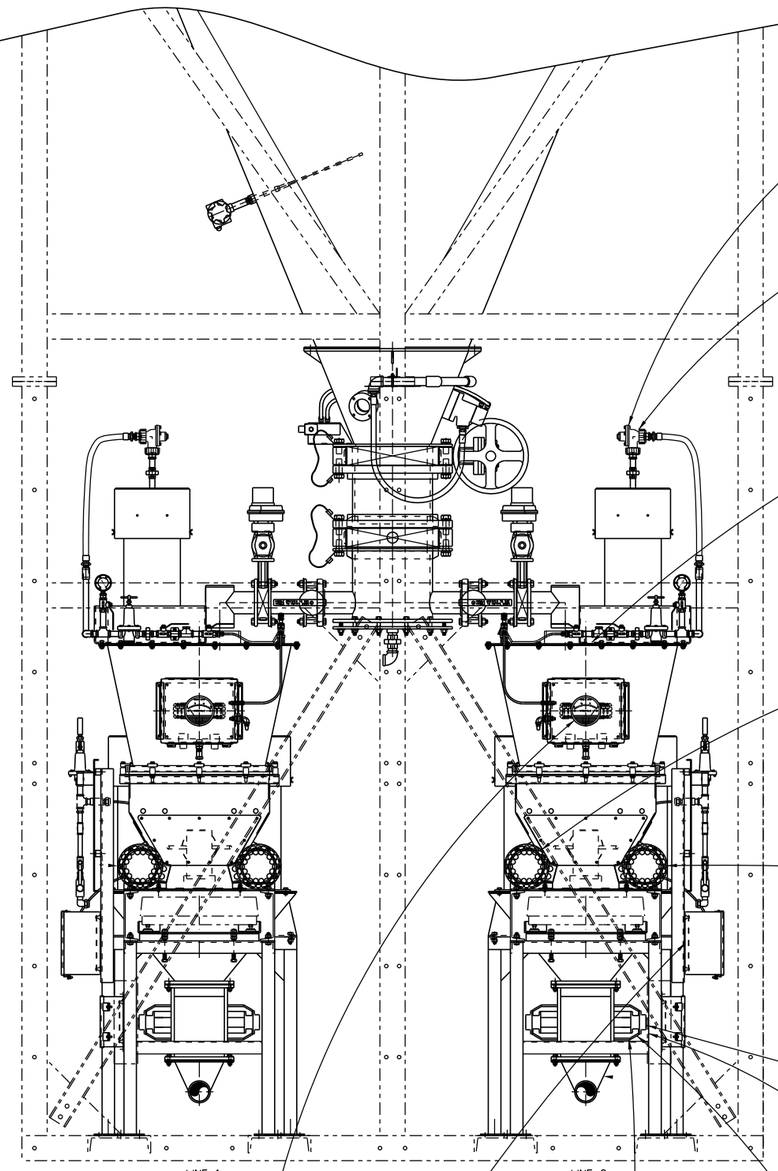

DAY BIN

LIW VENT HOPPER 2
DUST FILTER SOLENOIDS
XV04310
04310 — 02625
XV04312
04312

LIW HOPPER 2
DUST FILTER SOLENOIDS
XV04306
04306 — 02625
XV04308
04308

LIW HOPPER 2
HIGH LEVEL PROBE
LSH04251
03414 — 1
02625 — 2
3
4
5
04252
6
7
8
24 VDC
GND
* NOL-TEC INSTALLED JUMPER
1 2 3 NO
ON
OFF
NC
KEY
ON

LIW HOPPER 2 FEEDER SCREW
MOTOR FIELD DISCONNECT
FD064
FIELD DISC.
02456A — 02456
02457A — 02457
02458A — 02458
.5HP MTR
03414 — 04254
LOCATED NEAR MOTOR
REF. SHT. 24

LIW HOPPER 2 AGITATOR
MOTOR FIELD DISCONNECT
FD068
FIELD DISC.
02556A — 02556
02557A — 02557
02558A — 02558
.5HP MTR
03414 — 04256
LOCATED NEAR MOTOR
REF. SHT. 25

LIW HOPPER 2 VENT HOPPER RAL
MOTOR FIELD DISCONNECT
FD070
FIELD DISC.
02612A — 02612
02613A — 02613
02614A — 02614
.75HP MTR
03414 — 04258
LOCATED NEAR MOTOR
REF. SHT. 26

LINE 2 VENT HOPPER RAL
ZERO SPEED SWITCH
03414 — SS04262 — 04262

LIWF 2 VENT HOPPER
PRESSURE TRANSMITTER
PT04470
03414
04470
SHLD
1
2

LIWF 2 HOPPER
PRESSURE TRANSMITTER
PT04466
03414
04466
SHLD
1
2

LIW VENT HOPPER 2 RAL
POCKET PURGE SOLENOID
XV04318
04318 — 02625
GND

LIW VENT HOPPER 2 RAL
BEARING PURGE SOLENOID
XV04316
04316 — 02625
GND

					DAY BIN LINE 2		
					FIELD WIRING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO.
9222A-7-085

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					SPARE		
					DRAWING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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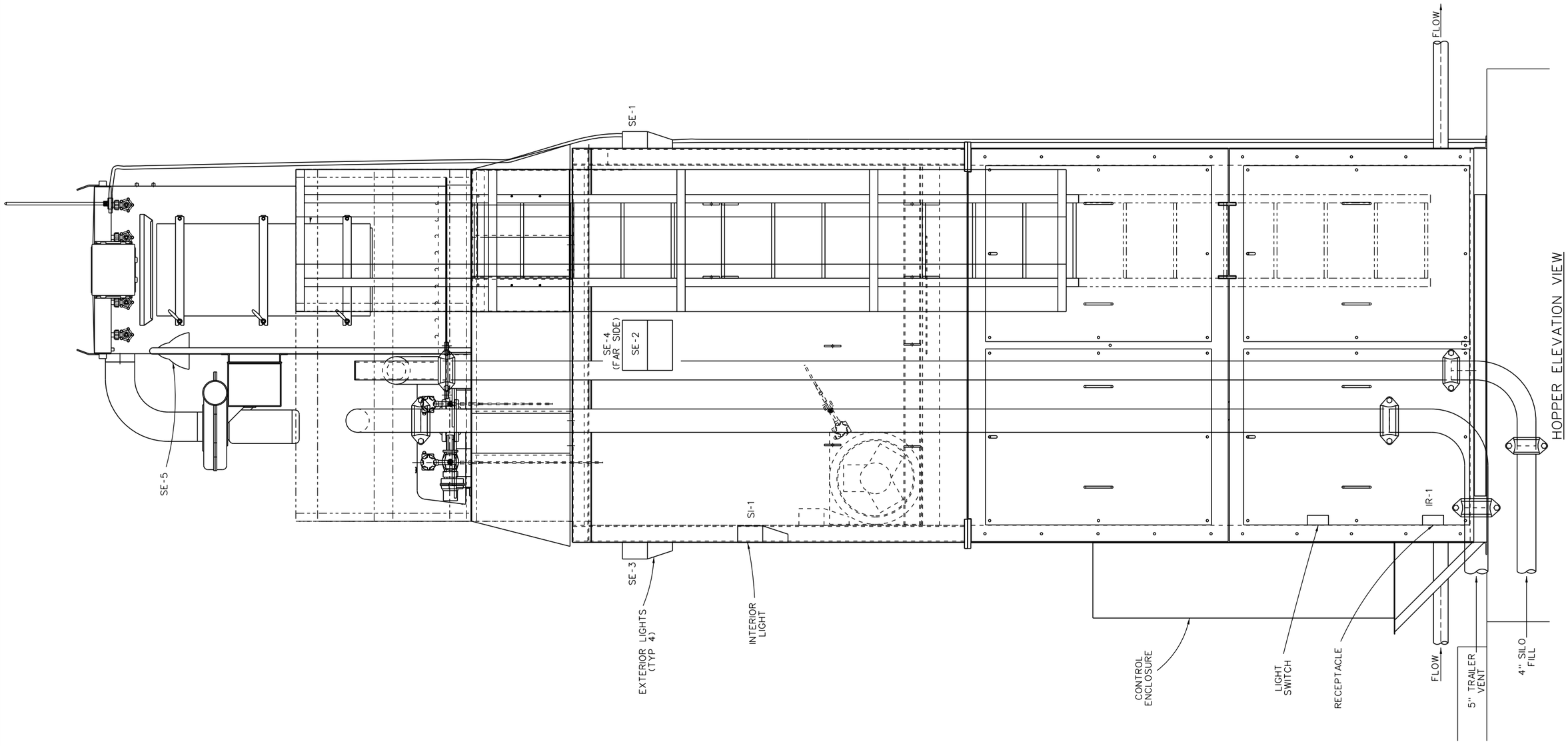
DRAWING NO. 9222A-7-086



					DAY BIN ELEVATION		
					FIELD WIRING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-095

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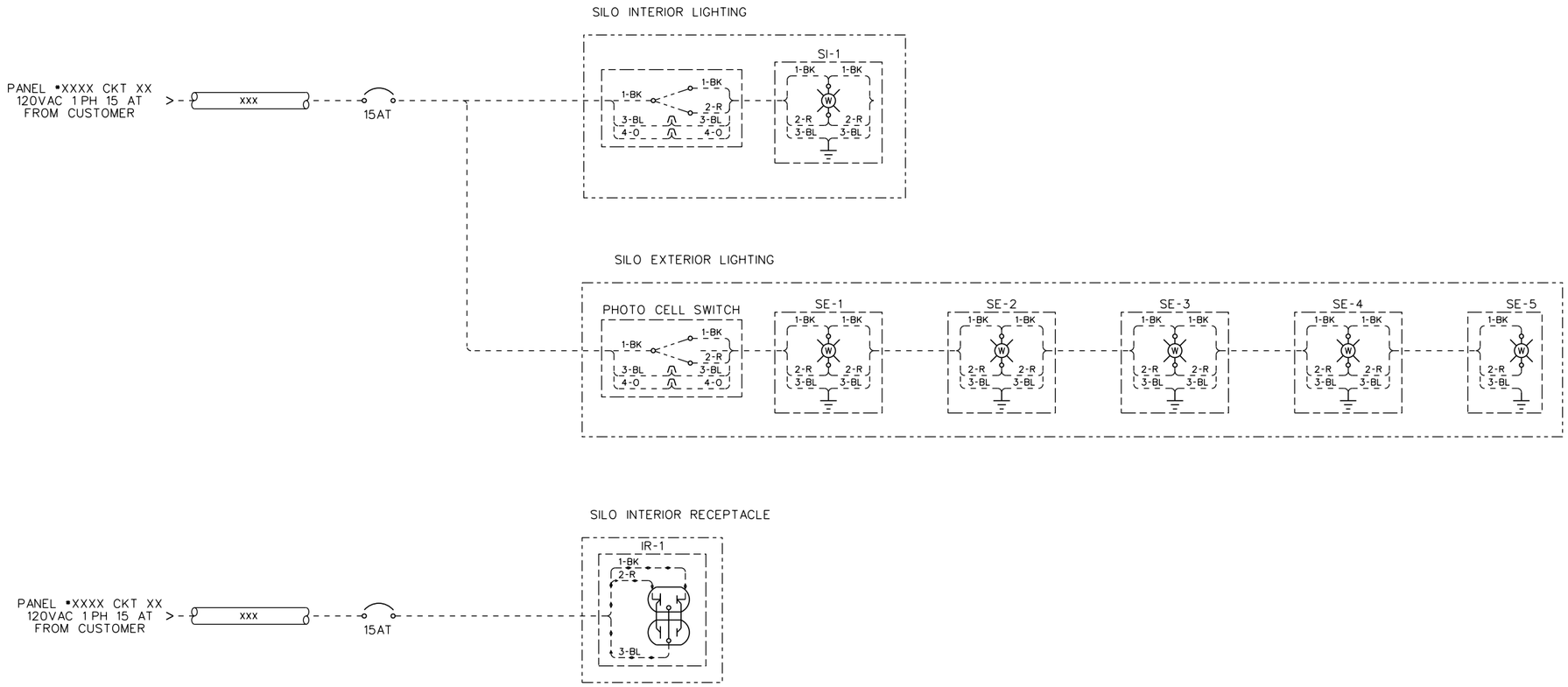
36



					DAY BIN ELEVATION		
					FIELD WIRING		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.15	CATALOG NO.
REV	DATE	REVISION NOTE	DRAWN	DESIGN	DESIGN BY J. BROWN	SCALE NONE	

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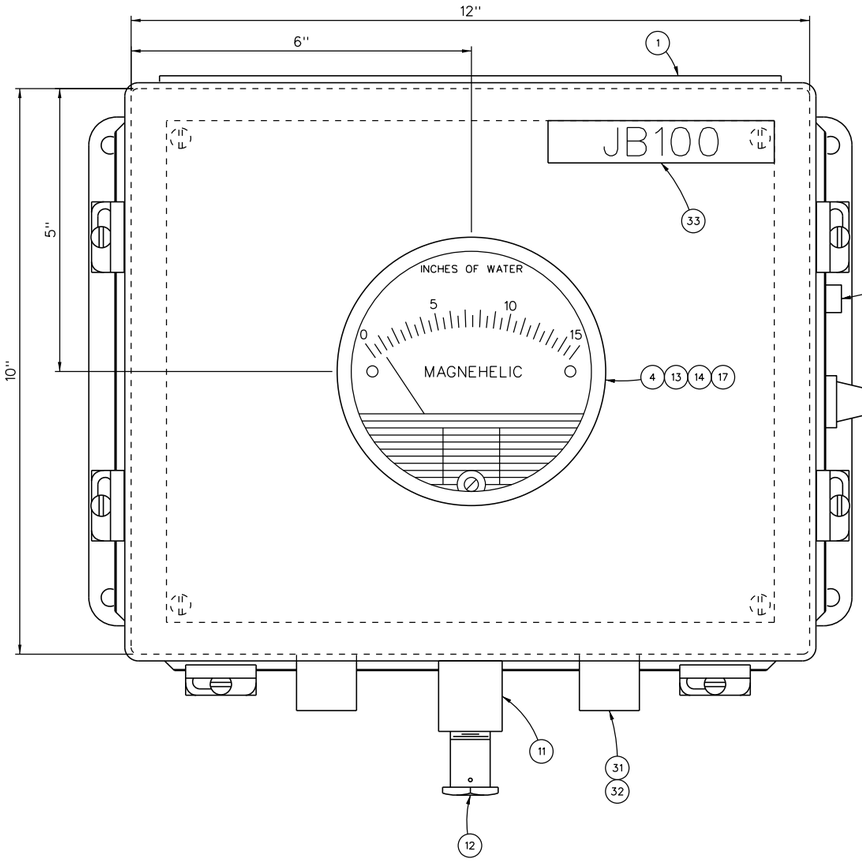
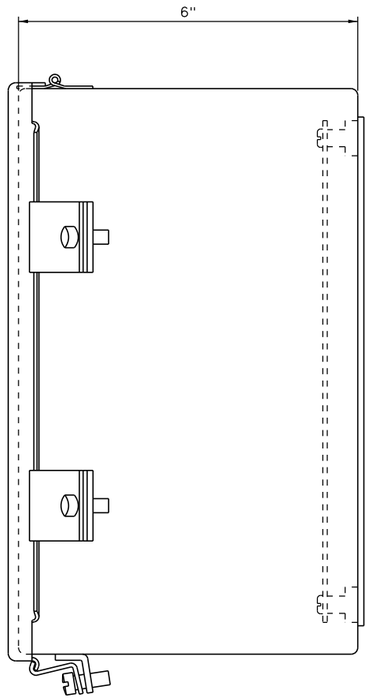
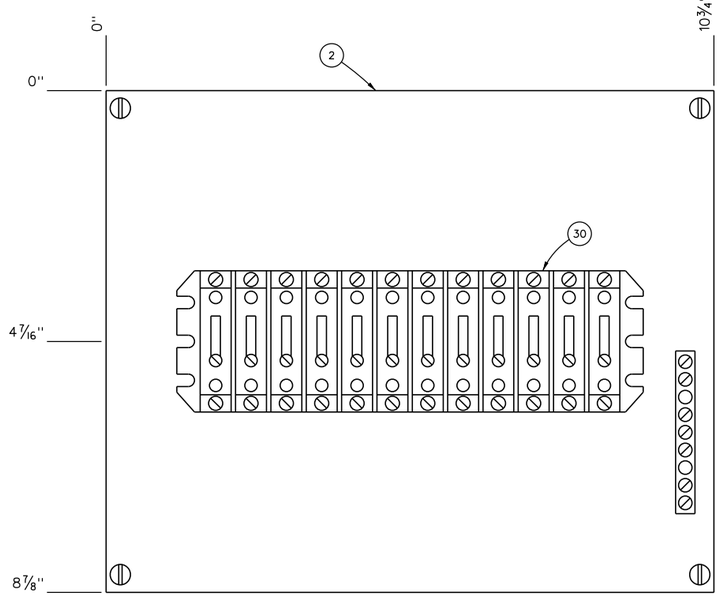
DRAWING NO.
9222A-7-096







ENCLOSURE:
NEMA 4X, 316SS
HOFFMAN A12106CHNFSS6
12.00'' x 10.00''W x 6.00''D
SUBPANEL:
HOFFMAN A12P10
10.75''H x 8.88''W

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

JB100 LIW HOPPER 1 DIFFERENTIAL J-BOX
PANEL & BACKPANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14
DESIGN BY J. BROWN | SCALE 3/4"=1"
CATALOG NO.

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DRAWING NO.
9222A-7-100

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG #67097					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.	NOL-TEC No.
1	1	ENCLOSURE, NEMA 4X, 12.00" X 10.00" X 6.00", 316SS	HOFFMAN	A12106CHNFSS6	30666
2	1	BACKPANEL, 10.75" X 8.88"	HOFFMAN	A12P10	10046
4	1	TRANSMITTER, PRESSURE, W/MAG GAUGE, RANGE 0-10.0 IN WC, 4-20mA OUTPUT, PANEL MOUNT	DWYER	605-10	37252
11	1	CONNECTOR, CONDUIT, 1/2"	MYERS	ST-1	10180
12	1	DRAIN/BREATHER, SS	CROUSE & HINDS	ECD15	10222
13	24IN	POLYTUBING, 1/4", BLACK	NORGREN	1B-048-01	10670
14	2	CONNECTOR, 1/4" T X 1/8" NPT, SWVL 90	NORGREN	12-447-0418	10162
			NUMATICS	INB109-104-020	
15	1	BULKHEAD, CONNECTOR, 1/4" NPT F, BRASS (ANCHOR COUPLING)	PARKER	207ACBHS-4	48769
16	1	BULKHEAD, CONNECTOR, 3/8" T X 1/4" NPT, MALE316SS	SWAGELOCK	SS-600-11-4	64573
17	2	CONNECTOR, 1/4" T X 1/4" NPT M	NORGREN	12-425-0428	10159
			NUMATICS	INB103-104-021	
19	1	MUFFLER, 1/4" SINTERED BRONZE	NUMATICS	P2MN	26548
30	1	TERMINAL BLOCK, 600V, 30A, TYPE NT, SLIDE LINK, CLEAR COVER, WHT MARKER, 12 POLE	MEGGER	CM-25012	63045
31	2	VALVE, SOLENOID, 1/8", 2-WAY, PILOT, PANEL MOUNTED	ASCO	P8262C2-24VDC	28236
32	2	CONNECTOR, 3/8" T X 1/4" NPT, SWVL 90	NORGREN	12-447-0628	10168
			NUMATICS	IN109-308-021	
33	1	LEGEND, AS REQUIRED PER JOB, PLASTIC	NOL-TEC	LEGEND	11026

LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE #1	LINE #2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	JB100	.	3/4" x 4"	1/2"	WHITE	BLACK

1 JB100

TB1

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REV	DATE	REVISION NOTE	DRAWN	DESIGN			
					JB100 LIW HOPPER 1 DIFFERENTIAL J-BOX		
					BOM, TERMINAL LAYOUT & LEGEND		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
					DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-101

00		40	
02	02625 TB1	42	
04	02625 TB2	44	
06	04206 TB3	46	
08	04208 TB4	48	
10	03414 TB5	50	
12	04426 TB6	52	
14	SHLD TB7	54	
16	TB8	56	
18	TB9	58	
20	TB10	60	
22	TB11	62	
24	TB12	64	
26		66	
28		68	
30		70	
32		72	
34		74	

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

JB100 LIW HOPPER 1 DIFFERENTIAL J-BOX
WIRING DIAGRAM
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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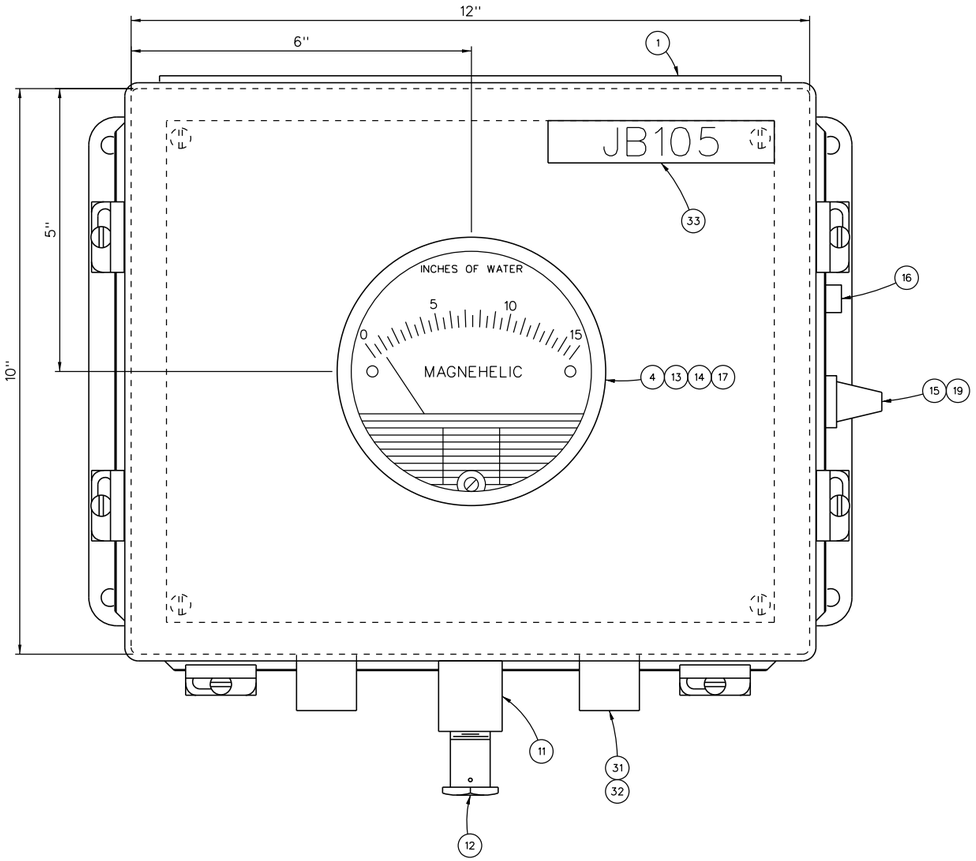
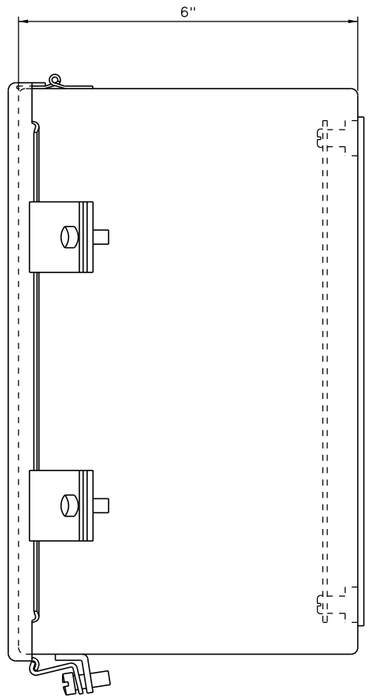
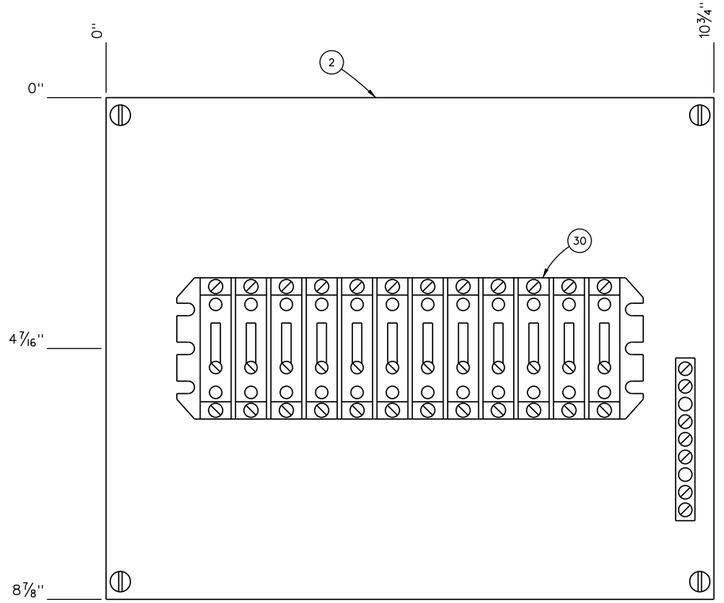
DRAWING NO. 9222A-7-102







ENCLOSURE:
NEMA 4X, 316SS
HOFFMAN A12106CHNFSS6
12.00'' x 10.00''W x 6.00''D
SUBPANEL:
HOFFMAN A12P10
10.75''H x 8.88''W

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

JB105 LIW VENT HOPPER 1 DIFFERENTIAL J-BOX
PANEL & BACKPANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14
DESIGN BY J. BROWN | SCALE 3/4"=1"
CATALOG NO.

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DRAWING NO.
9222A-7-105

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG #67097					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.	NOL-TEC No.
1	1	ENCLOSURE, NEMA 4X, 12.00" X 10.00" X 6.00", 316SS	HOFFMAN	A12106CHNFSS6	30666
2	1	BACKPANEL, 10.75" X 8.88"	HOFFMAN	A12P10	10046
4	1	TRANSMITTER, PRESSURE, W/MAG GAUGE, RANGE 0-10.0 IN WC, 4-20mA OUTPUT, PANEL MOUNT	DWYER	605-10	37252
11	1	CONNECTOR, CONDUIT, 1/2"	MYERS	ST-1	10180
12	1	DRAIN/BREATHER, SS	CROUSE & HINDS	ECD15	10222
13	24IN	POLYTUBING, 1/4", BLACK	NORGREN	1B-048-01	10670
14	2	CONNECTOR, 1/4" T X 1/8" NPT, SWVL 90	NORGREN	12-447-0418	10162
			NUMATICS	INB109-104-020	
15	1	BULKHEAD, CONNECTOR, 1/4" NPT F, BRASS (ANCHOR COUPLING)	PARKER	207ACBHS-4	48769
16	1	BULKHEAD, CONNECTOR, 3/8" T X 1/4" NPT, MALE316SS	SWAGELOCK	SS-600-11-4	64573
17	2	CONNECTOR, 1/4" T X 1/4" NPT M	NORGREN	12-425-0428	10159
			NUMATICS	INB103-104-021	
19	1	MUFFLER, 1/4" SINTERED BRONZE	NUMATICS	P2MN	26548
30	1	TERMINAL BLOCK, 600V, 30A, TYPE NT, SLIDE LINK, CLEAR COVER, WHT MARKER, 12 POLE	MEGGER	CM-25012	63045
31	2	VALVE, SOLENOID, 1/8", 2-WAY, PILOT, PANEL MOUNTED	ASCO	P8262C2-24VDC	28236
32	2	CONNECTOR, 3/8" T X 1/4" NPT, SWVL 90	NORGREN	12-447-0628	10168
			NUMATICS	IN109-308-021	
33	1	LEGEND, AS REQUIRED PER JOB, PLASTIC	NOL-TEC	LEGEND	11026

LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE #1	LINE #2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	JB105	.	3/4" x 4"	1/2"	WHITE	BLACK

1 JB105

TB1

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REV	DATE	REVISION NOTE	DRAWN	DESIGN			
					JB105 LIW VENT HOPPER 1 DIFFERENTIAL J-BOX		
					BOM, TERMINAL LAYOUT & LEGEND		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
					DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-106

00		40	
02	02625 □ TB1	42	
04	02625 □ TB2	44	
06	02625 □ TB3	46	
08	03414 □ TB4	48	
10	04162 □ TB5	50	
12	04210 □ TB6	52	
14	04212 □ TB7	54	
16	04216 □ TB8	56	
18	04218 □ TB9	58	
20	03414 □ TB10	60	
22	04430 □ TB11	62	
24	SHLD □ TB12	64	
26		66	
28		68	
30		70	
32		72	
34		74	

REV	DATE	REVISION NOTE	DRAWN	DESIGN	
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	

JB105 LIW VENT HOPPER 1 DIFFERENTIAL J-BOX
WIRING DIAGRAM
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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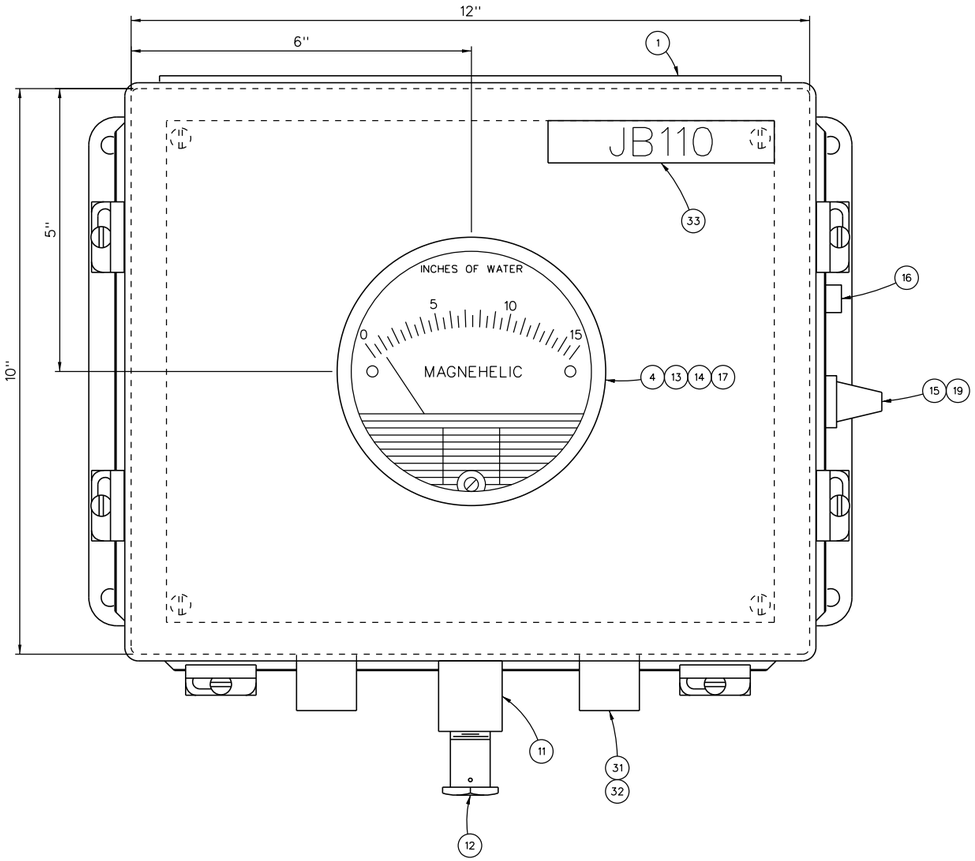
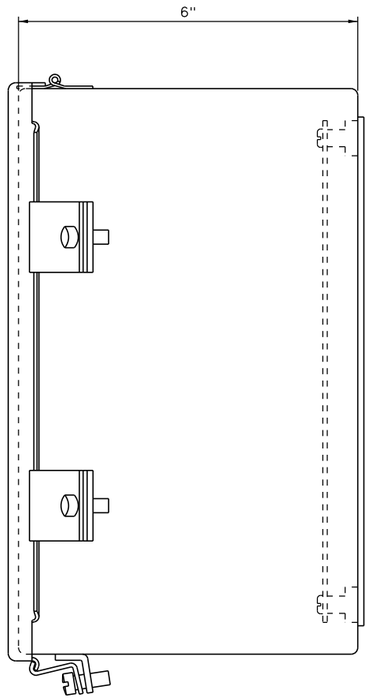
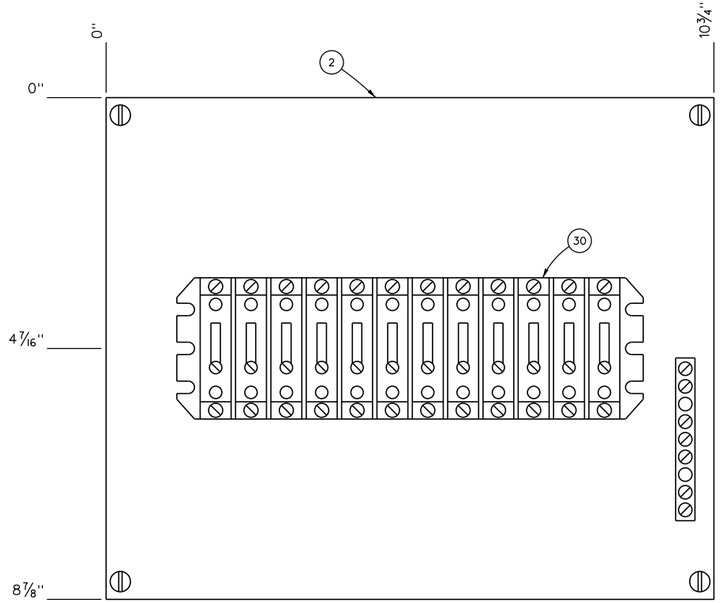
DRAWING NO.
9222A-7-107







ENCLOSURE:
NEMA 4X, 316SS
HOFFMAN A12106CHNFSS6
12.00'' x 10.00''W x 6.00''D
SUBPANEL:
HOFFMAN A12P10
10.75''H x 8.88''W

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

JB110 LIW HOPPER 2 DIFFERENTIAL J-BOX
PANEL & BACKPANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14
DESIGN BY J. BROWN | SCALE 3/4"=1"
CATALOG NO.

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DRAWING NO.
9222A-7-110

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG #67097					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.	NOL-TEC No.
1	1	ENCLOSURE, NEMA 4X, 12.00" X 10.00" X 6.00", 316SS	HOFFMAN	A12106CHNFSS6	30666
2	1	BACKPANEL, 10.75" X 8.88"	HOFFMAN	A12P10	10046
4	1	TRANSMITTER, PRESSURE, W/MAG GAUGE, RANGE 0-10.0 IN WC, 4-20mA OUTPUT, PANEL MOUNT	DWYER	605-10	37252
11	1	CONNECTOR, CONDUIT, 1/2"	MYERS	ST-1	10180
12	1	DRAIN/BREATHER, SS	CROUSE & HINDS	ECD15	10222
13	24IN	POLYTUBING, 1/4", BLACK	NORGREN	1B-048-01	10670
14	2	CONNECTOR, 1/4" T X 1/8" NPT, SWVL 90	NORGREN	12-447-0418	10162
			NUMATICS	INB109-104-020	
15	1	BULKHEAD, CONNECTOR, 1/4" NPT F, BRASS (ANCHOR COUPLING)	PARKER	207ACBHS-4	48769
16	1	BULKHEAD, CONNECTOR, 3/8"T X 1/4" NPT, MALE316SS	SWAGELOCK	SS-600-11-4	64573
17	2	CONNECTOR, 1/4" T X 1/4" NPT M	NORGREN	12-425-0428	10159
			NUMATICS	INB103-104-021	
19	1	MUFFLER, 1/4" SINTERED BRONZE	NUMATICS	P2MN	26548
30	1	TERMINAL BLOCK, 600V, 30A, TYPE NT, SLIDE LINK, CLEAR COVER, WHT MARKER, 12 POLE	MEGGER	CM-25012	63045
31	2	VALVE, SOLENOID, 1/8", 2-WAY, PILOT, PANEL MOUNTED	ASCO	P8262C2-24VDC	28236
32	2	CONNECTOR, 3/8" T X 1/4" NPT, SWVL 90	NORGREN	12-447-0628	10168
			NUMATICS	IN109-308-021	
33	1	LEGEND, AS REQUIRED PER JOB, PLASTIC	NOL-TEC	LEGEND	11026

LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE #1	LINE #2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	JB110	.	3/4" x 4"	1/2"	WHITE	BLACK

1 JB110

TB1

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REV	DATE	REVISION NOTE	DRAWN	DESIGN			
					JB110 LIW HOPPER 2 DIFFERENTIAL J-BOX		
					BOM, TERMINAL LAYOUT & LEGEND		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
					DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-111

00		40	
02	02625 □ TB1	42	
04	02625 □ TB2	44	
06	04306 □ TB3	46	
08	04308 □ TB4	48	
10	03414 □ TB5	50	
12	04466 □ TB6	52	
14	SHLD □ TB7	54	
16	□ TB8	56	
18	□ TB9	58	
20	□ TB10	60	
22	□ TB11	62	
24	□ TB12	64	
26		66	
28		68	
30		70	
32		72	
34		74	

REV	DATE	REVISION NOTE	DRAWN	DESIGN	
					JB110 LIW HOPPER 2 DIFFERENTIAL J-BOX
					WIRING DIAGRAM
					DESERT VIEW POWER UNIT A & B
					MECCA, CA
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN — DATE 06.Aug.14 — CATALOG NO.
					DESIGN BY J. BROWN — SCALE NONE

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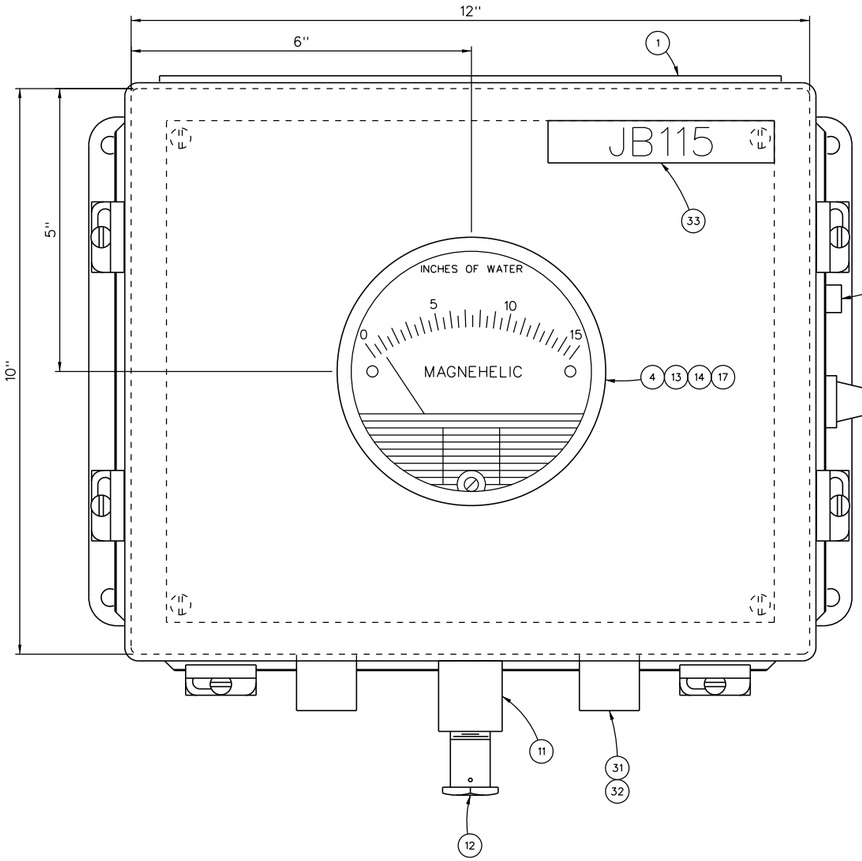
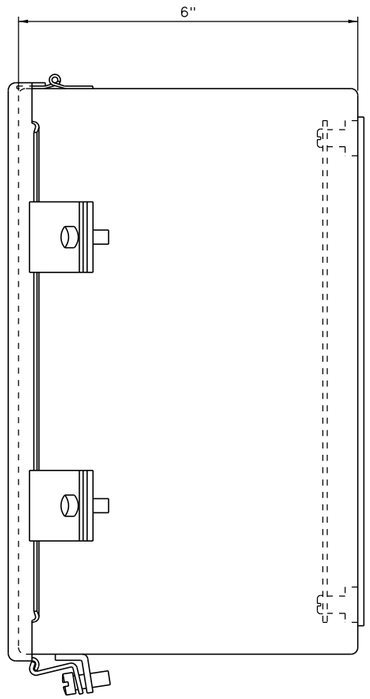
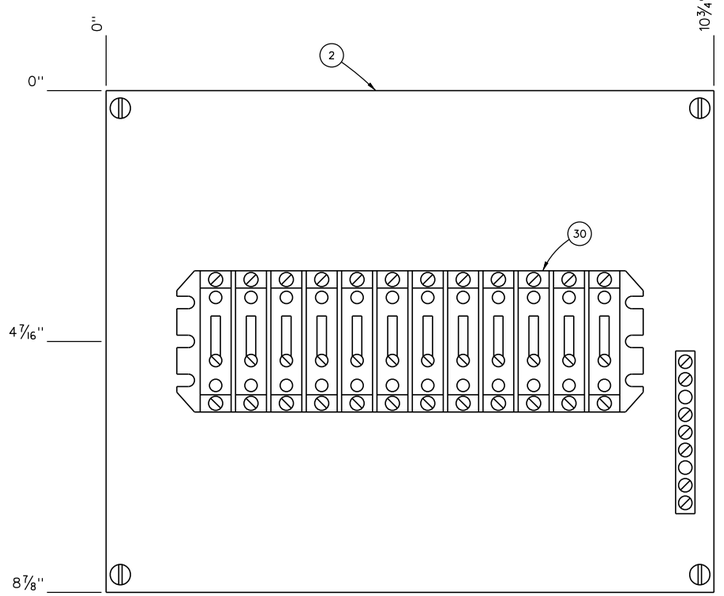
DRAWING NO. 9222A-7-112







ENCLOSURE:
NEMA 4X, 316SS
HOFFMAN A12106CHNFSS6
12.00'' x 10.00''W x 6.00''D
SUBPANEL:
HOFFMAN A12P10
10.75''H x 8.88''W

REV	DATE	REVISION NOTE	DRAWN	DESIGN
A	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

JB115 LIW VENT HOPPER 2 DIFFERENTIAL J-BOX
PANEL & BACKPANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14
DESIGN BY J. BROWN | SCALE 3/4"=1"
CATALOG NO.

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DRAWING NO.
9222A-7-115

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG #67097					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.	NOL-TEC No.
1	1	ENCLOSURE, NEMA 4X, 12.00" X 10.00" X 6.00", 316SS	HOFFMAN	A12106CHNFSS6	30666
2	1	BACKPANEL, 10.75" X 8.88"	HOFFMAN	A12P10	10046
4	1	TRANSMITTER, PRESSURE, W/MAG GAUGE, RANGE 0-10.0 IN WC, 4-20mA OUTPUT, PANEL MOUNT	DWYER	605-10	37252
11	1	CONNECTOR, CONDUIT, 1/2"	MYERS	ST-1	10180
12	1	DRAIN/BREATHER, SS	CROUSE & HINDS	ECD15	10222
13	24IN	POLYTUBING, 1/4", BLACK	NORGREN	1B-048-01	10670
14	2	CONNECTOR, 1/4" T X 1/8" NPT, SWVL 90	NORGREN	12-447-0418	10162
			NUMATICS	INB109-104-020	
15	1	BULKHEAD, CONNECTOR, 1/4" NPT F, BRASS (ANCHOR COUPLING)	PARKER	207ACBHS-4	48769
16	1	BULKHEAD, CONNECTOR, 3/8"T X 1/4" NPT, MALE316SS	SWAGELOCK	SS-600-11-4	64573
17	2	CONNECTOR, 1/4" T X 1/4" NPT M	NORGREN	12-425-0428	10159
			NUMATICS	INB103-104-021	
19	1	MUFFLER, 1/4" SINTERED BRONZE	NUMATICS	P2MN	26548
30	1	TERMINAL BLOCK, 600V, 30A, TYPE NT, SLIDE LINK, CLEAR COVER, WHT MARKER, 12 POLE	MEGGER	CM-25012	63045
31	2	VALVE, SOLENOID, 1/8", 2-WAY, PILOT, PANEL MOUNTED	ASCO	P8262C2-24VDC	28236
32	2	CONNECTOR, 3/8" T X 1/4" NPT, SWVL 90	NORGREN	12-447-0628	10168
			NUMATICS	IN109-308-021	
33	1	LEGEND, AS REQUIRED PER JOB, PLASTIC	NOL-TEC	LEGEND	11026

LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE #1	LINE #2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	JB115	.	3/4" x 4"	1/2"	WHITE	BLACK

1 JB115

TB1

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REV	DATE	REVISION NOTE	DRAWN	DESIGN			
					JB115 LIW VENT HOPPER 2 DIFFERENTIAL J-BOX		
					BOM, TERMINAL LAYOUT & LEGEND		
					DESERT VIEW POWER UNIT A & B		
					MECCA, CA		
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN	DATE 06.Aug.14	CATALOG NO.
					DESIGN BY J. BROWN	SCALE NONE	

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DRAWING NO. 9222A-7-116

00		40	
02	02625 □ TB1	42	
04	02625 □ TB2	44	
06	02625 □ TB3	46	
08	03414 □ TB4	48	
10	04262 □ TB5	50	
12	04310 □ TB6	52	
14	04312 □ TB7	54	
16	04316 □ TB8	56	
18	04318 □ TB9	58	
20	03414 □ TB10	60	
22	04470 □ TB11	62	
24	SHLD □ TB12	64	
26		66	
28		68	
30		70	
32		72	
34		74	

REV	DATE	REVISION NOTE	DRAWN	DESIGN	
					JB115 LIW VENT HOPPER 2 DIFFERENTIAL J-BOX
					WIRING DIAGRAM
					DESERT VIEW POWER UNIT A & B
					MECCA, CA
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN — DATE 06.Aug.14 — CATALOG NO.
					DESIGN BY J. BROWN — SCALE NONE

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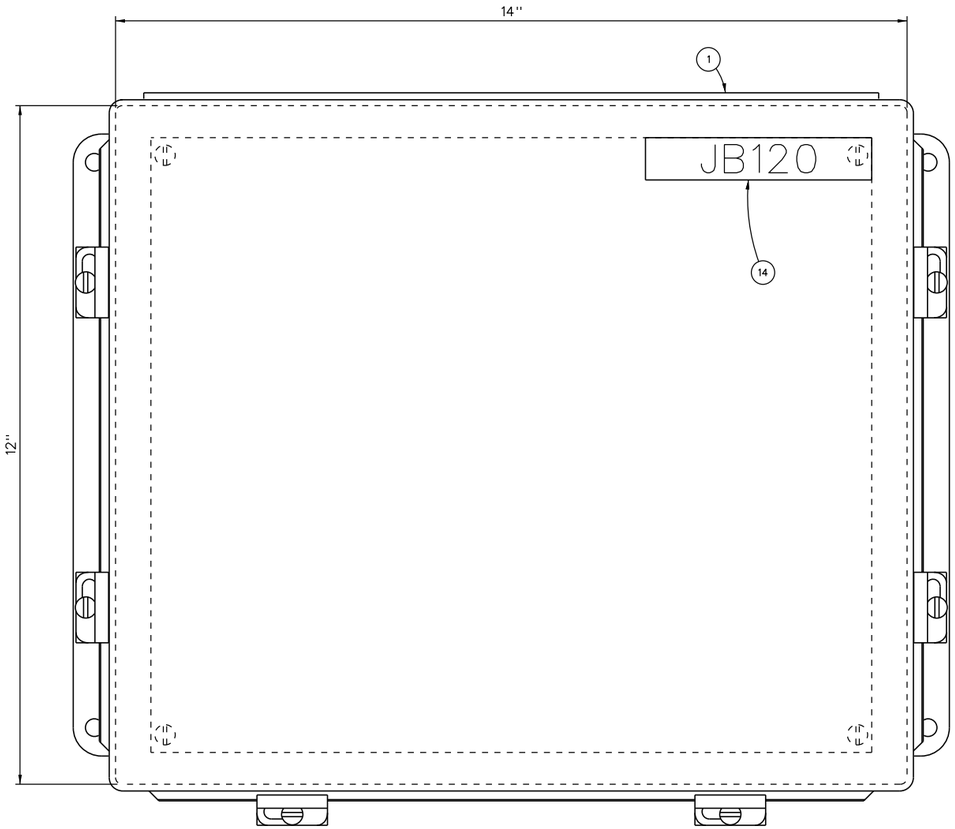
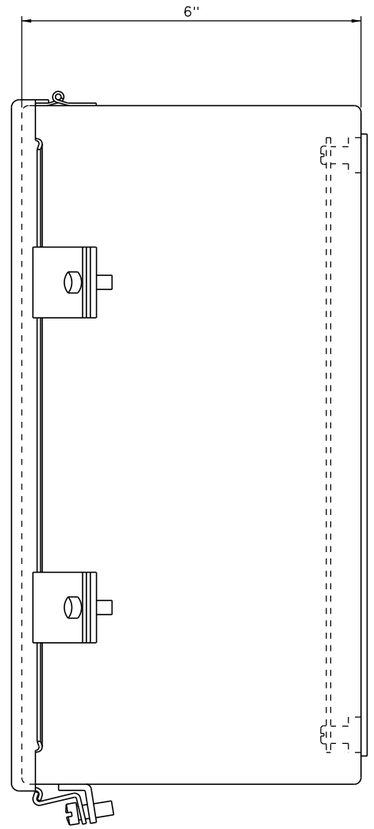
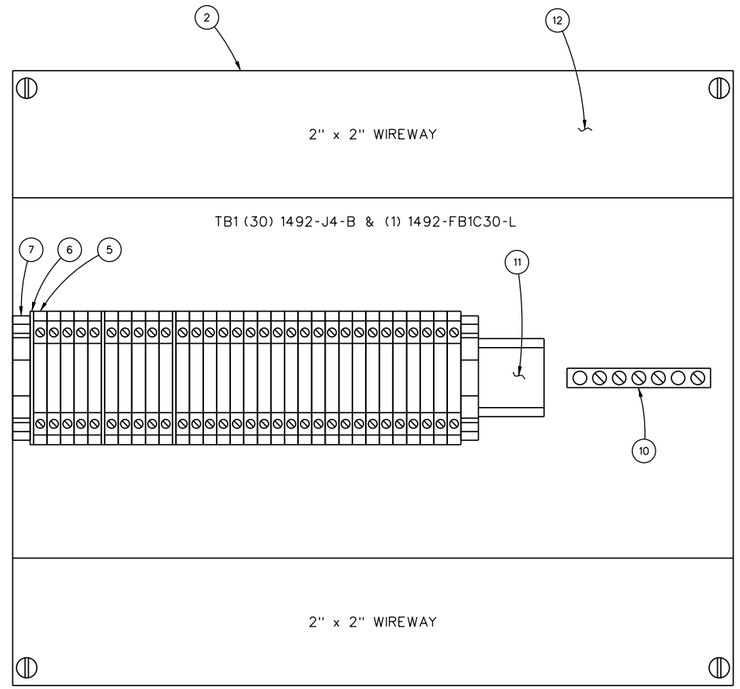
DRAWING NO. 9222A-7-117







ENCLOSURE:
NEMA 4X, 316SS
HOFFMAN A14126CHNFSS
14.00'' x 12.00''W x 6.00''D
SUBPANEL:
HOFFMAN A14P12
12.75''H x 10.88''W

REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

JB120 SILO AIR PAD DISTRIBUTOR J-BOX
PANEL & BACKPANEL LAYOUT
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE 3/4"=1"

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DRAWING NO.
9222A-7-120

NOL-TEC SYSTEMS INC. JOBSCOPE CATALOG #67148					
ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART No.	NOL-TEC No.
1	1	ENCLOSURE, NEMA 4X, 14.00" X 12.00" X 6.00", 304SS	HOFFMAN	A1412CHNFSS	61319
2	1	BACKPANEL, 12.75" X 10.88"	HOFFMAN	A14P12	10980
4	1	FUSE HOLDER, 1 POLE, 600 V, 30 AMP WITH BLOWN FUSE INDICATOR	ALLEN-BRADLEY	1492-FB1C30-L	28737
5	30	TERMINAL BLOCK, 22-10 AWG, 600V, 35 AMP	ALLEN-BRADLEY	1492-J4	41310
6	1	END BARRIER (USED ON 1492-J3, J4, J6 & J10) GREY	ALLEN-BRADLEY	1492-EBJ3	41900
7	2	END ANCHOR, DIN RAIL, J-SERIES, STANDARD DUTY	ALLEN-BRADLEY	1492-EAJ35	42412
10	1	GROUND BAR	CUTLER-HAMMER	GBK5	10404
11	18IN	DIN RAIL	ALLEN-BRADLEY	199-DR1	10220
12	52IN	WIRE DUCT, 2" WD X 2" DEEP, WHT	TAYLOR	T2X2TW	24784
13	1	FUSE, 600 V, 5 AMP, CLASS CC, TIME DELAY	GOULD	ATGR5	36777
14	1	LEGEND, AS REQUIRED PER JOB, PLASTIC	NOL-TEC	LEGEND	11026

LEGENDS FOR DOOR LAYOUT							
No.	Qty.	LINE #1	LINE #2	LEGEND SIZE	LETTER SIZE	TAG COLOR	TEXT COLOR
1	1	JB120	.	¾" x 4"	½"	WHITE	BLACK

1 JB120

TB1

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REV	DATE	REVISION NOTE	DRAWN	DESIGN
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB

JB120 SILO AIR PAD DISTRIBUTOR J-BOX
BOM, TERMINAL LAYOUT & LEGEND
DESERT VIEW POWER UNIT A & B
MECCA, CA

DRAWN BY J. ELLWEIN | DATE 06.Aug.14 | CATALOG NO.
DESIGN BY J. BROWN | SCALE NONE

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DRAWING NO.
9222A-7-121

00				40		
02	02625 □ TB1	24VDC -V		42	REF. SHT. 41 LINE 18 > 04118 — 04118 TB16 04118 — 04118 < REF. SHT. 83 LINE 22	DAY BIN AIR PAD DISTRIBUTOR AERATION SOLENOID
04	02625 □ TB2	24VDC -V		44	REF. SHT. 41 LINE 48 > 04148 — 04148 TB17 04148 — 04148 < REF. SHT. 83 LINE 14	LIW HOPPER 1 INLET VALVE CLOSED LS
06	02625 □ TB3	24VDC -V		46	REF. SHT. XX LINE XX > 04150 — 04150 TB18 04150 — 04150 < REF. SHT. 83 LINE 15	LIW HOPPER 1 INLET VALVE OPEN LS
08	02625 □ TB4	24VDC -V		48	REF. SHT. XX LINE XX > 04204 — 04204 TB19 04204 — 04204 < REF. SHT. 83 LINE 16	LIW HOPPER 1 INLET VALVE OPEN SOLENOID
10	02625 □ TB5	24VDC -V		50	REF. SHT. XX LINE XX > 04248 — 04248 TB20 04248 — 04248 < REF. SHT. 83 LINE 16	LIW HOPPER 2 INLET VALVE CLOSED LS
12	03414 □ TB6	24VDC +V		52	REF. SHT. XX LINE XX > 04250 — 04250 TB21 04250 — 04250 < REF. SHT. 83 LINE 17	LIW HOPPER 2 INLET VALVE OPEN LS
14	03414 □ TB7	24VDC +V		54	REF. SHT. XX LINE XX > 04304 — 04304 TB22 04304 — 04304 < REF. SHT. 83 LINE 18	LIW HOPPER 2 INLET VALVE OPEN SOLENOID
16	03414 □ TB8	24VDC +V		56	□ TB23	
18	03414 □ TB9	24VDC +V		58	□ TB24	
20	03414 □ TB10	24VDC +V		60	□ TB25	
22	REF. SHT. 40 LINE 56 > 04056 — 04056 TB11 04056 — 04056 < REF. SHT. 83 LINE 02	DAY BIN LOW LEVEL PROBE		62	□ TB26	
24	REF. SHT. 40 LINE 58 > 04058 — 04058 TB12 04058 — 04058 < REF. SHT. 83 LINE 08	DAY BIN DISCHARGE VALVE CLOSED LS		64	□ TB27	
26	REF. SHT. 40 LINE 60 > 04060 — 04060 TB13 04060 — 04060 < REF. SHT. 83 LINE 09	DAY BIN DISCHARGE VALVE OPEN LS		66	□ TB28	
28	REF. SHT. 41 LINE 14 > 04114 — 04114 TB14 04114 — 04114 < REF. SHT. 83 LINE 13	DAY BIN BOTTOM AERATION OPEN SOLENOID		68	□ TB29	
30	REF. SHT. 41 LINE 16 > 04116 — 04116 TB15 04116 — 04116 < REF. SHT. 83 LINE 10	DAY BIN DISCHARGE VALVE OPEN SOLENOID		70	□ TB30	
32				72		
34				74		

REV	DATE	REVISION NOTE	DRAWN	DESIGN	
					JB120 SILO AIR PAD DISTRIBUTOR J-BOX
					WIRING DIAGRAM
					DESERT VIEW POWER UNIT A & B
					MECCA, CA
0	28JAN16	ISSUED FOR CONSTRUCTION	JVE	JAB	DRAWN BY J. ELLWEIN — DATE 06.Aug.14 — CATALOG NO.
					DESIGN BY J. BROWN — SCALE NONE

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DRAWING NO. 9222A-7-122

Section A4. Spare Parts List

Revision Date

A4.1 Recommended Spare Parts List

RECOMMENDED SPARE PARTS

Nol-Tec Systems welcomes the opportunity to provide you with your spare parts needs. Please utilize this form as a Request for Quotation. Simply identify the items you need, and a quote will be provided within 24 hours.

February 25, 2016

Customer **DESERT VIEW POWER COMPANY**
Location **MECCA, CA**
Job Number **4723 / 9222A**
Mech. Eng *MICHAEL BOSIO*
Elec. Eng *AL HEUER*
Proj. Mgr. *TIM KAUTZ*

Spare Parts Contact

Dennis Iverson
Spare Parts Coordinator
Phone: 651-780-8600 x 243
Fax: 651-780-4400
E-mail: dennisiverson@nol-tec.com

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
36177	ACTUATOR, BUTTERFLY, 10" & 12" VALVES W/ INTERNAL TRAVEL STOPS, & BRACKET	65260 VALVE, BUTTERFLY, 12", SERIES 31, ASEM	1	1
38060	REPAIR KIT, ACTUATOR, SERIES 92, 10"&12"	36177 ACTUATOR, BUTTERFLY, 10" & 12" VALVES W/ INTERNAL TRAVEL STOPS, & BRACKET	KIT	1
35089	ACTUATOR, BUTTERFLY, 3" & 4" VALVES W/ INTERNAL TRAVEL STOPS	41291 VALVE, BUTTERFLY, 3", SERIES 30, ASEM	2	1
36747	REPAIR KIT, ACTUATOR, SERIES 92, 3" & 4"	35089 ACTUATOR, BUTTERFLY, 3" & 4" VALVES W/ INTERNAL TRAVEL STOPS	KIT	1
35069	ACTUATOR, BUTTERFLY, 5" VALVE W/ INTERNAL TRAVEL STOPS	67420 VALVE, BUTTERFLY, 5", SERIES 30, ASEM	1	1
38592	REPAIR KIT, ACTUATOR SERIES 92, FOR 5"	35069 ACTUATOR, BUTTERFLY, 5" VALVE W/ INTERNAL TRAVEL STOPS	KIT	1

Request Quick Quote - Return to _____ at fax #_____

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
67733	ACTUATOR, BUTTERFLY, 8" VALVE W/ EXTENDED TRAVEL STOPS	67734 VALVE, BUTTERFLY, 8", SERIES 30, ASEM	4	1
37370	REPAIR KIT, ACTUATOR, SERIES 92, 8" REPAIR KIT, ACTUATOR, SERIES 92, 8"	67733 ACTUATOR, BUTTERFLY, 8" VALVE W/ EXTENDED TRAVEL STOPS	KIT	1
67716	ADAPTER, CAM & GROOVE, TYPE A, 5" ALUM	67664 TRAILER, PNEUMATIC DRY BULK TANK	1	1
67533	ADAPTER, FLGD, 1-1/2" SCH 40 X 6" LG, MS WITH 1/2" COUPLING,	67431 GRAVITY SPLITTER, ASEM	8	1
27400	AERATOR VALVE, CLEAR, ASEM CLEAR URTH, CER SEAT, CI MAN, 2" DIA CYL	50848 FLUIDIZING BIN BTM, 12" OUTLET, MS, ASE	3	1
67617	AIR CONDITIONER, 2000 BTUH,480V/.93 AMP W/ MALFUNCTION SWITCH	67623 CONTROL ENCLOSURE (CP030)	1	1
67616	AIR CONDITIONER, 6000 BTUH,480V/1.8 AMP W/ MALFUNCTION SWITCH, RAZOR SERIES	67603 CONTROL ENCLOSURE (CP020)	1	1
10978	ARM, LIMIT SWITCH	48384 BRACKET, LIMIT SWITCH, 4", MS, ASEM	1	1
35784	BEND, 3" SCH 40, 90 DEG, MS 24" CLR, 6" TAN & 6" TAN	SHIPPED LOOSE	10	1
63861	BEND, TEE, 4" TO 6" SCH 40, MS, FAB (1) END CAP 90 DEG, 8" TO 6" REDUC	SHIPPED LOOSE	1	1
67372	BRACKET, SUPPORT FOR 4" & 5" PIPE, MS, DAY BIN SUPPORT	SHIPPED LOOSE	1	1
10151	CLAMP, QUICK RELEASE, 301SS NOL-TEC	SHIPPED LOOSE	29	2
67611	CONDUCTOR, ALUM., 7/16" DIA, 50'-0" COIL CLASS I LIGHTNING PROTECTION	67613 LIGHTNING PROTECTION, ASEM, DAY BIN	1	1
67380	CONNECTOR, FLEX 4 1/4" ID X 6 1/4" ID 5" LG RCN OUTER, W/ 5"LG .020 THK LINER	67031 FRAME, LOWER, DAY BIN, ASEM	2	1

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
67381	CONNECTOR, FLEX 4 3/4" ID X 6 5/8" ID 5" LG RCN OUTER, W/ 5"LG .020 THK LINER	SHIPPED LOOSE	2	1
18741	COUPLING, STYLE 99, 1-1/2"	SHIPPED LOOSE	32	2
10210	COUPLING, STYLE 99, 3"	SHIPPED LOOSE	40	1
15320	GASKET, 3", STYLE 99, CPLG, EPDM	10210 COUPLING, STYLE 99, 3"	KIT	2
10211	COUPLING, STYLE 99, 4"	SHIPPED LOOSE	15	NOT RECOMMENDED
15321	GASKET, 4", STYLE 99, CPLG, EPDM	10211 COUPLING, STYLE 99, 4"	KIT	1
11355	COUPLING, STYLE 99, 5"	SHIPPED LOOSE	15	NOT RECOMMENDED
15023	GASKET, 5", STYLE 99, CPLG, EPDM	11355 COUPLING, STYLE 99, 5"	KIT	1
67984	DISCONNECT SWITCH, ENCLOSED, 60 A, NEMA 4X, NON-FUSED, STAINLESS	67985 ENCLOSURE, FIELD DISCONNECT, 60 AMP	3	1
67985	ENCLOSURE, FIELD DISCONNECT, 60 AMP, NOL-TEC	SHIPPED LOOSE	3	1
68028	ETHERNET CONFIGURABLE ROUTER, 3 PORT NETWORK ADDRESS TRANSLATION	67623 CONTROL ENCLOSURE (CP030)	1	1
55211	EXHAUST FAN, WALL MOUNT, 18" DIA, 1/3 HP, 1725 RPM, 115/230V, GALV, 22"	67027 FRAME, UPPER, DAY BIN	1	NOT RECOMMENDED
21DV21	PROPELLER	55211 EXHAUST FAN, WALL MOUNT, 18" DIA, 1/3 HP, 1725 RPM, 115/230V, GALV, 22"		1
21DV44	MOTOR	55211 EXHAUST FAN, WALL MOUNT, 18" DIA, 1/3 HP, 1725 RPM, 115/230V, GALV, 22"		1

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
20515	EXHAUSTER, PB14A, 1100 CFM, 3HP, 6" SP, 8" INLET, CCW BH, ARR4, 230/460V	SHIPPED LOOSE	1	NOT RECOMMENDED
WHEEL	12.25 X 2-7/8 ALUM, 1-1/8 BR WHEEL	20515 EXHAUSTER, PB14A, 1100 CFM, 3HP, 6" SP, 8" INLET, CCW BH, ARR4, 230/460V		1
MOTOR	MTR, 3 HP, 3450RPM, 3PH, 60HZ, 230/460V, TEFC, EPACT, EFF, FM, 182T, 1.15 SF, F INSUL., 40C AMB, F1 BOX, STEEL FRAME	20515 EXHAUSTER, PB14A, 1100 CFM, 3HP, 6" SP, 8" INLET, CCW BH, ARR4, 230/460V		1
67038	FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC	67036 FEEDER 01, LIW, ASEM 67037 FEEDER 02, LIW, ASEM	2	NOT RECOMMENDED
10891901	SPROCKET, SYNC MS	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
108920	BUSHING	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
108927	BELT	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
21146700	MOD, SPKT	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
20388805	ASSY, HEAVY DUTY ROD END BEARING	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
002065	BEARING, ROD, END ROLLER	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		3
20181505	CAM, AGITATOR DRIVE	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
21097406	THR ROD, SS 3/8 -24 X 10	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
002061	BEARING, FLANGE, 2 BOLT	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		4
21118011	FEEDTUBE	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
21108223027.5	AUGER	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
108929	MOTOR, 1/2 HP	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
004404	REDUCER	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
002625	HOPPER, FLEX 12 SER, INDUSTRIAL GRADE	67038 FEEDER, V-12, 1.75" DIA, 12.375" F-C, DUAL DRIVE, NO EXT HOPPER, 480VAC		1
21938	FILTER, 1", 5 MICRON	67712 CONTROLS, AIR, TRAILER,	1	1
59621	FILTER, 1/2" NPT, 5 MICRON ELEMENT	67149 AIR CONTROL, BIN BOTTOM AND DUAL 67532 AIR CONTROL, SPLITTER, (4) LANCES, ASEM	3	1
32533	FILTER, CARTRIDGE, BTTM RMVL, 30 SQ FT 36", SB SPUN BOND POLY, 42.6"OAL,	SHIPPED LOOSE	25	25
40228	FILTER, CARTRIDGE, TOP RMVL, 10 SQ FT 18.4" LG , SPUN BOND POLY	67186 SGL CART DUST FILTER, 10 SQ FT, MS, ASE	8	2
62517	FILTER, REGULATOR, 3/8", 0-60 PSIG	67082 AIR CONTROL, SGL CART DUST FILTER 67111 AIR CONTROL, SGL CART DUST FILTER	4	1
44216	FLOW METER, W/ NO VALVE, 10-100 SCFH, 100 PSIG MAX, 1/8" NPT	67082 AIR CONTROL, SGL CART DUST FILTER 67111 AIR CONTROL, SGL CART DUST FILTER	8	1
28737	FUSE HOLDER, 1 POLE, 600V, 30 AMP WITH BLOWN FUSE INDICATOR	67148 JUNCTION ENCLOSURE, SILO DISCHARGE	1	1
36777	FUSE, 600 V, 5 AMP, CLASS CC TIME DELAY	67148 JUNCTION ENCLOSURE, SILO DISCHARGE	1	1
10383	GASKET, DUST FILTER DOOR, 1/4" X 2" WD, PORON	67333 DUST COLLECTOR, 60NT25, MS, ASEM	12	12
16541	GASKET, FULL FACE, 6", 150 LB, 1/8" THK RED RUBBER	67027 FRAME, UPPER, DAY BIN	2	1

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
10390	GASKET, RED RUBBER RING, 6", 150 LB 1/8" THK	67431 GRAVITY SPLITTER, ASEM	4	1
28819	GASKET, SGL CARTRIDGE DUST FILTER NOL-TEC	67031 FRAME, LOWER, DAY BIN, ASEM	8	2
11527	GAUGE, 2-1/2", 1/4" NPT, 0-100 PSI,GLYC,BOTTOM MNT, POLYCARBONATE, SS	67149 AIR CONTROL, BIN BOTTOM AND DUAL	3	1
11528	GAUGE, 2-1/2", 1/4" NPT, 0-160 PSI,GLYC,BOTTOM MNT, POLYCARBONATE	67031 FRAME, LOWER, DAY BIN, ASEM 67772 AIR SUPPLY, TOP OF DAY BIN, ASEM	2	1
38756	GAUGE, 2-1/2", 1/4"NPT, 30" HG, 0-30 PSIBTM MTG, SS CASE, POLY LENSE, GLYC	67532 AIR CONTROL, SPLITTER, (4) LANCES, ASEM	8	1
67539	GRAVITY SPLITTER SUPPORT STAND, MS, FAB NOL-TEC	67431 GRAVITY SPLITTER, ASEM	2	1
67453	GRAVITY SPLITTER, MS, FAB, 3" SCH 40 INLET , (4)1-1/2" SCH40 OUTLETS	67431 GRAVITY SPLITTER, ASEM	2	1
67203	GUARD, EXHAUST FAN, FOR USE W/ DAYTON 18" FAN, #10D985	67027 FRAME, UPPER, DAY BIN	1	1
67590	HEAT EXCHANGER, AIR COOLED, 1HP,3" IN & OUT, INSTRUMENT COUPLING, 279 F TO 132	SHIPPED LOOSE		NOT RECOMMENDED
52225*	MOTOR	67590 HEAT EXCHANGER, AIR COOLED, 1HP,3" IN & OUT, INSTRUMENT COUPLING, 279 F TO 132		1
42310*	FAN	67590 HEAT EXCHANGER, AIR COOLED, 1HP,3" IN & OUT, INSTRUMENT COUPLING, 279 F TO 132		1
47717*	VENTURI FRAME	67590 HEAT EXCHANGER, AIR COOLED, 1HP,3" IN & OUT, INSTRUMENT COUPLING, 279 F TO 132		1
22409E	EXHAUST HOOD	67590 HEAT EXCHANGER, AIR COOLED, 1HP,3" IN & OUT, INSTRUMENT COUPLING, 279 F TO 132		1
48983*	FAN GUARD	67590 HEAT EXCHANGER, AIR COOLED, 1HP,3" IN & OUT, INSTRUMENT COUPLING, 279 F TO 132		1

Part Number	Description	Used On Catalogue No / Description		Qty Used	Qty Rec'm
10415	HOSE ASEM, 1"M X 1"MS, 24", STD NOL-TEC	67115	FLUIDIZING BIN BOTTOM & DUAL OUTLET	1	1
10417	HOSE ASEM, 1"M X 1"MS, 36", STD NOL-TEC	67031 67116	FRAME, LOWER, DAY BIN, ASEM AIR DISTRIBUTOR ASSEMBLY	2	1
10419	HOSE ASEM, 1/2"M X 1/2"MS, 24", STD NOL-TEC	67031	FRAME, LOWER, DAY BIN, ASEM	4	1
60537	HOSE ASEM, 1/2"M X 1/2"MS, 30", STD NOL-TEC	67031	FRAME, LOWER, DAY BIN, ASEM	4	1
10420	HOSE ASEM, 1/2"M X 1/2"MS, 40", STD NOL-TEC	67031	FRAME, LOWER, DAY BIN, ASEM	4	1
11564	HOSE ASEM, 1-1/2"M X 1-1/2"MS, 24", STD NOL-TEC	67031	FRAME, LOWER, DAY BIN, ASEM	2	1
66411	HOSE ASEM, 1-1/2"M X 1-1/2"MS, 84", STD NOL-TEC	67031	FRAME, LOWER, DAY BIN, ASEM	1	1
40172	HOSE ASEM, 3/4"M X 3/4"MS, 40", STD NOL-TEC	41499	FLUIDIZING BIN BOTTOM, MECH SUBSTRUCTUR	3	1
67715	HOSE, 3" X 10'-0", MATERIAL HANDLING, 690SB, INT EXPANDED PLAIN END X INT	SHIPPED LOOSE		1	1
67427	HOSE, 3" X 7'-0", MATERIAL HANDLING, 690SB, PLAIN ENDS, INT EXPANDED	SHIPPED LOOSE		2	1
67598	HOSE, 4" X 10'-0", MATERIAL HANDLING, 690SB, INT EXPANDED PLAIN END X INT	SHIPPED LOOSE		1	1
67602	HOSE, 5" X 10'-0", MATERIAL HANDLING, 690SB, INT EXPANDED PLAIN END X INT	SHIPPED LOOSE		1	1
67649	HOUSING, DAMPER, 6-3/4" I.D., MS NOL-TEC	67648	DAMPER, BACK DRAFT, 6" PIPE FIT, MS	1	1
42138	LEVEL CONTROL, 12", ASEM PROXIMITY 24V/120V/220VAC	67027 67664	FRAME, UPPER, DAY BIN TRAILER, PNEUMATIC DRY BULK TANK	5	1

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
40954	LEVEL CONTROL, 19", PROXIMITY VOLTAGE 24 VDC/ 120 VAC/ 220 VAC	42138 LEVEL CONTROL, 12", ASEM 43595 LEVEL CONTROL, 36", ASEM 44539 LEVEL CONTROL, 24", ASEM	9	1
44539	LEVEL CONTROL, 24", ASEM PROXIMITY 24V/120V/220V	67027 FRAME, UPPER, DAY BIN 67664 TRAILER, PNEUMATIC DRY BULK TANK	3	1
43595	LEVEL CONTROL, 36", ASEM PROXIMITY 24V/120V/220V	67027 FRAME, UPPER, DAY BIN	1	1
67405	LIFTING LUG, LOWER HOPPER FRAME, MS, BOLT CONNECTION	67031 FRAME, LOWER, DAY BIN, ASEM	4	1
67363	LIGHT, LED, 3K L, 120-277 VAC, 50/60HZ, 41W, 1" WALL MOUNT,	SHIPPED LOOSE	4	1
67430	LIGHT, LED, 3K L, 120-277 VAC, 50/60HZ, 41W, 1-1/2" STANCHION STRAIGHT MOUNT,	SHIPPED LOOSE	1	1
22447	LIMIT SWITCH	48384 BRACKET, LIMIT SWITCH, 4", MS, ASEM	1	1
19820	LIMIT SWITCH, 3 INLET PORTS, DBL NAMUR MOUNT	41291 VALVE, BUTTERFLY, 3", SERIES 30, ASEM 65260 VALVE, BUTTERFLY, 12", SERIES 31, ASEM 67420 VALVE, BUTTERFLY, 5", SERIES 30, ASEM 67734 VALVE, BUTTERFLY, 8", SERIES 30, ASEM	8	1
61436	MEMBRANE, BOTTOM AERATION, 12" RING GASKET, URETHANE, MINI-JET, HABASIT,	67116 AIR DISTRIBUTOR ASSEMBLY	1	1
67395	MOUNTING PLATE, FEEDER FRAME, MS NOL-TEC	67036 FEEDER 01, LIW, ASEM 67037 FEEDER 02, LIW, ASEM	4	1
67563	NOZZLE, 1-1/2" LANCE INJECTOR, MS, (1) LANCE, 4" 150 LB MTG, 50" LG	SHIPPED LOOSE	4	1
67564	NOZZLE, 1-1/2" LANCE INJECTOR, MS, (1) LANCE, 4" 150 LB MTG, 75" LG	SHIPPED LOOSE	4	1
32481	O-RING, 1/2" ID X 1/8 C/S 70 DURO, BLK COMPOUND #9746, VITON ACID	67375 CONTROL ENCLOSURE, DC, 5-BANK, 24 VDC	2	1

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
47218	O-RING, 4" INLINE SCREENER,3/8 CS,9.69" ID, 10.07" OD, 60-70A BUNA-N, BONDED	67708 SCREENER, INLINE, 4",HINGED,O-RING, ASE	2	2
50930	PLATE, SCREENING, 3/8" THK, MS WIRE CLOTH, 1/4" DIA ROD, FOR 4" SCREEN	67708 SCREENER, INLINE, 4",HINGED,O-RING, ASE	1	1
67714	REDUCER, 6" TO 5" CONCENTRIC, MS, NPT ON BOTH ENDS,	67664 TRAILER, PNEUMATIC DRY BULK TANK	1	1
14318	REGULATOR, 1" NPT	67149 AIR CONTROL, BIN BOTTOM AND DUAL 67772 AIR SUPPLY, TOP OF DAY BIN, ASEM	3	1
16968	REPAIR KIT, 1" & 3/4" REGULATORS	14318 REGULATOR, 1" NPT	KIT	1
14204	REGULATOR, 1/2" NPT	67049 AIR CONTROL, SGL CART DUST FILTER, ASEM 67055 AIR CONTROL, SGL CART DUST FILTER, ASEM 67082 AIR CONTROL, SGL CART DUST FILTER 67111 AIR CONTROL, SGL CART DUST FILTER	4	1
42442	RELAY, TERMINAL BLOCK, SPDT, 120 VAC & 125 VDC, SLIM LINE, BUILT IN LINE LEAK	67375 CONTROL ENCLOSURE, DC, 5-BANK, 24 VDC	1	1
67032	ROTARY AIRLOCK, 8" SQ, 8 VANE, HDX, MS 3/4HP, 15 RPM, 460V-60-30 TEFC, CUT/BEV	67034 VENT HOPPER 01, ASEM, 5" INLET 67035 VENT HOPPER 02, ASEM, 5" INLET	2	NOT RECOMMENDED
430C-552NS	ROTOR	67032 ROTARY AIRLOCK, 8" SQ, 8 VANE, HDX, MS 3/4HP, 15 RPM, 460V-60-30 TEFC, CUT/BEV		1
59302	CAP, DRIVE END BEARING	67032 ROTARY AIRLOCK, 8" SQ, 8 VANE, HDX, MS 3/4HP, 15 RPM, 460V-60-30 TEFC, CUT/BEV		1
59304	NUT, PACKING GLAND	67032 ROTARY AIRLOCK, 8" SQ, 8 VANE, HDX, MS 3/4HP, 15 RPM, 460V-60-30 TEFC, CUT/BEV		2
8X8HDX-KIT02	SEAL BEARING KIT WITH LANTERN RING	67032 ROTARY AIRLOCK, 8" SQ, 8 VANE, HDX, MS 3/4HP, 15 RPM, 460V-60-30 TEFC, CUT/BEV		1
61500	SCALE, BENCH, 1,000#, 18 X 24 X 5.25 SINGLE POINT, RL1260 LOAD CELL	SHIPPED LOOSE	2	NOT RECOMMENDED

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
19095*	TOP COVER	61500 SCALE, BENCH, 1,000#, 18 X 24 X 5.25 SINGLE POINT, RL1260 LOAD CELL		1
19141*	FOOT	61500 SCALE, BENCH, 1,000#, 18 X 24 X 5.25 SINGLE POINT, RL1260 LOAD CELL		1
91683*	LOAD CELL	61500 SCALE, BENCH, 1,000#, 18 X 24 X 5.25 SINGLE POINT, RL1260 LOAD CELL		1
67407	SHIPPING SUPPORT, FLUIDIZING BIN BOTOM, LOWER FRAME BOLT CONNECTION	67031 FRAME, LOWER, DAY BIN, ASEM	2	1
50783	SURGE SUPPRESSOR, 120 VAC, 20 AMP, DUPLEX OUTLET INCLUDED	67603 CONTROL ENCLOSURE (CP020)	1	1
45270	THERMOSTAT, SPST, 30-110 DEG F 3-1/2 DEG F DIFF, SS ELEMENTS	67027 FRAME, UPPER, DAY BIN	1	1
67408	THUMB SCREW, WING HEAD, 3/8"-16 X 1", MS, ZINC-PLATED	67031 FRAME, LOWER, DAY BIN, ASEM	80	5
46172	TIMER, 1-10 BANK, 10-35 VDC 50-500 MSEC ON TIME, 1-180 SEC OFF	67375 CONTROL ENCLOSURE, DC, 5-BANK, 24 VDC	1	1
28974	TRANSMITTER, PRESSURE, -15 TO +15 PSIG 4-20MA, 1/2 CONDUIT, 1/2" MNPT/1/4"FNPT	67532 AIR CONTROL, SPLITTER, (4) LANCES, ASEM SHIPPED LOOSE	11	1
37252	TRANSMITTER, PRESSURE, W/ MAG GAUGE RANGE 0-10.0 IN WC, 4-20MA OUTPUT PANEL	67097 JUNCTION BOX, SGL CART DUST FILTER, ASE 67375 CONTROL ENCLOSURE, DC, 5-BANK, 24 VDC	5	1
55864	TRANSMITTER, TEMP, RTD, 1/2 NPT, 0-400 FPYROMATION 4" INSERT, 2-WIRE	SHIPPED LOOSE	5	1
48508	VALVE, BALL,1-1/2",MANUAL,FULL PORT,CS MODEL F15, FLANGED, 2-PIECE	67431 GRAVITY SPLITTER, ASEM	8	1
40823	VALVE, BUTTERFLY, 12", 118 TRIM, SERIES 31	44950 VALVE, BUTTERFLY, 12" SERIES 31, ASEM 65260 VALVE, BUTTERFLY, 12", SERIES 31, ASEM	2	1
24228	REPAIR KIT 12" BUTTERFLY VALVE	40823 VALVE, BUTTERFLY, 12", 118 TRIM, SERIES 31	KIT	1

Part Number	Description	Used On Catalogue No / Description	Qty Used	Qty Rec'm
22924	VALVE, BUTTERFLY, 3", 118 TRIM, SERIES 30	24165 VALVE, BUTTERFLY, 3", SERIES 30, ASEM 41291 VALVE, BUTTERFLY, 3", SERIES 30, ASEM	4	1
24233	REPAIR KIT, 3" SER 20/30, EPDM SEAT	22924 VALVE, BUTTERFLY, 3", 118 TRIM, SERIES 30	KIT	1
31905	VALVE, BUTTERFLY, 5", 118 TRIM, SERIES 30	67420 VALVE, BUTTERFLY, 5", SERIES 30, ASEM	1	1
31850	REPAIR KIT, 5 SERIES 20/30, EPDM SEAT	31905 VALVE, BUTTERFLY, 5", 118 TRIM, SERIES 30	KIT	1
23248	VALVE, BUTTERFLY, 8", 118 TRIM, SERIES 30	67734 VALVE, BUTTERFLY, 8", SERIES 30, ASEM	4	1
24230	REPAIR KIT, 8" SER 20/30, EPDM SEAT	23248 VALVE, BUTTERFLY, 8", 118 TRIM, SERIES 30	KIT	1
58740	VALVE, DIAPHRAGM 3/4" BUNA NITRILE SEALSCOMPRESSION FITTING, SERIES 4,	67333 DUST COLLECTOR, 60NT25, MS, ASEM	5	1
58748	DIAPHRAGM REPLACEMENT KIT, 3/4" SHOCKWAVE DIAPHRAGM	58740 VALVE, DIAPHRAGM 3/4" BUNA NITRILE SEALSCOMPRESSION FITTING, SERIES 4,	KIT	1
58793	VALVE, DIAPHRAGM 3/4", THREADED SERIES 4	67186 SGL CART DUST FILTER, 10 SQ FT, MS, ASE	8	1
58748	DIAPHRAGM REPLACEMENT KIT, 3/4" SHOCKWAVE DIAPHRAGM	58793 VALVE, DIAPHRAGM 3/4", THREADED SERIES 4	KIT	1
10915	VALVE, NEEDLE, 1/2" ARO	67532 AIR CONTROL, SPLITTER, (4) LANCES, ASEM	8	1
10917	VALVE, NEEDLE, 1/4" ARO	67772 AIR SUPPLY, TOP OF DAY BIN, ASEM,	1	1
10919	VALVE, NEEDLE, 3/8" ARO	67034 VENT HOPPER 01, ASEM, 5" INLET 67035 VENT HOPPER 02, ASEM, 5" INLET 67037 FEEDER 02, LIW, ASEM 67082 AIR CONTROL, SGL CART DUST FILTER 67111 AIR CONTROL, SGL CART DUST FILTER	12	1

Part Number	Description	Used On Catalogue No / Description		Qty Used	Qty Rec'm
62689	VALVE, RELIEF, 1" X 1-1/4" @ 15 PSI AIR-SERVICE	67149	AIR CONTROL, BIN BOTTOM AND DUAL	1	1
45335	VALVE, SOLENOID, 1"- 2 WAY, 24VDC, NC, W/ MANUAL OVERRIDE	67149	AIR CONTROL, BIN BOTTOM AND DUAL	1	1
27916	VALVE, SOLENOID, 1/4", SGL, 24VDC, 6W, NAMUR MOUNT, SQ CONN & 6' MOLDED CORD	41291 65260 67420 67734	VALVE, BUTTERFLY, 3", SERIES 30, ASEM VALVE, BUTTERFLY, 12", SERIES 31, ASEM VALVE, BUTTERFLY, 5", SERIES 30, ASEM VALVE, BUTTERFLY, 8", SERIES 30, ASEM	8	1
29569	VALVE, SOLENOID, 1/4", SGL, 24VDC	41499	FLUIDIZING BIN BOTTOM, MECH SUBSTRUCTUR	1	1
18919	REPAIR KIT, VALVE, SOLENOID, SINGLE, SPOOL & O-RINGS, WITH PME-1 PILOT VLV	29569	VALVE, SOLENOID, 1/4", SGL, 24VDC	KIT	1
28236	VALVE, SOLENOID, 1/8", 2-WAY, PILOT, PANEL MOUNTED	67097 67375	JUNCTION BOX, SGL CART DUST FILTER, ASE CONTROL ENCLOSURE, DC, 5-BANK, 24 VDC	13	1
67732	VALVE, SOLENOID, 2", 24V, 2-WAY, NEMA4 ASCO	67664	TRAILER, PNEUMATIC DRY BULK TANK	4	1
45336	VALVE, SOLENOID, 3/8" - 2 WAY, 24VDC, W/MANUAL OVERRIDE	67082 67111	AIR CONTROL, SGL CART DUST FILTER AIR CONTROL, SGL CART DUST FILTER	4	1
50776	WEIGH SCALE CONTROLLER, PANEL MOUNT 24 VDC, AB TCP-IP, ROC INCLUDED	67623	CONTROL ENCLOSURE (CP030)	2	1

Operation & Maintenance Manual
Desert View Power LLC, Greenleaf Power
Hydrated Lime DSI System
MECCA, CA
Nol-Tec Contract Numbers: 4723
Nol-Tec Systems Site Numbers: 9222A

Section A5. Engineering Information & Lists **Revision Date**

Section A6. Nol-Tec Systems Standard Manuals **Revision Date**

A6.1 System Installation Manual

A6.2 Instructions for Storage of Nol-Tec Equipment

A6.3 Maintenance Schedule

A6.4 Pneumatic Conveying System Operating & Trouble Shooting Manual

NOL-TEC SYSTEMS

SYSTEM INSTALLATION MANUAL

www.nol-tec.com
425 Apollo Drive ▪ Lino Lakes, MN 55014
Telephone US 651-780-8600

IMPORTANT NOTICE

Failure to properly install, maintain and operate your Nol-Tec system or components may result in property damage, as well as serious bodily injury.

Failure to properly install, maintain and operate your Nol-Tec system or components may void any and all warranties of the manufacturer's workmanship and designs.

If you are not qualified, trained and authorized to perform installation, maintenance or operation of the system or components, please report to your supervisor and obtain their direction in these regards.

CONSULTATION AND KEEPING OF THIS MANUAL

1. This manual is intended for the User of the equipment manufactured by NOL-TEC SYSTEMS INC., Lino Lakes, MN, USA. It must be read by the operator and the workman installing and maintaining this equipment.

2. This manual describes general use limits and includes technical specifications for installation, maintenance, trouble shooting and parts list. It also includes information on safety devices and instructions about the User safety.

3. This manual is an integral part of the equipment and must be kept for reference.

4. The manual should be kept in a safe place.

5. The User can suggest changes to improve this manual to the Manufacturer or his Agent. Suggestions will be appreciated and reviewed to determine merit.

6. The Manufacturer disclaims responsibility in case of:
   a) Improper use of equipment.
   b) Use not in compliance with specific laws even if these are subsequent to the sale date of this equipment.
   c) Incorrect installation.
   d) Feed damages.
   e) Serious failure in the expected maintenance.
   f) Unauthorized modifications to the equipment.
   g) Removing or deleting the security devices and signals.
   h) Use of parts manufactured by other than the original manufacturer.
   i) Total or partial non-observance of the instructions supplied in this manual.
   j) Exceptional or unpredictable events.
   k) Improper use of the equipment with mateirals or in situations not expressly authorized by the Manufacturer.

7. Before moving, installing or using the equipment, carefully read this manual.

8. It is necessary to evaluate carefully the possibility of using this equipment with inflammable, corrosive, explosive materials, or material for which particular precautions are prescribed.

TABLE OF CONTENTS

INTRODUCTION

This manual provides you with a comprehensive guide to the installation of your Nol-Tec material handling system. We recommend you carefully study its contents. The performance of your system is reflected by how well you install and maintain the equipment.

RECEIVING EQUIPMENT

The equipment shipped to you by Nol-Tec has been loaded with care to prevent any damage during shipment. From time to time, the carrier will off-load and reload a shipment. When this happens, there is a strong possibility the equipment may be improperly reloaded.

Because of this, Nol-Tec suggests a thorough inspection for visible external damage of all containers, pallet boxes, and large parts (such as transporters, dust collectors, hoppers, chutes and pipe). If any damage is obvious or questionable, a thorough inspection and immediate claim must be made against the carrying truck line.

A check of the number of pieces received compared to the number of pieces indicated on the Bill of Lading must be performed. Nol-Tec has found this necessary, due to trucking firm's common practice of off-loading and reloading at various terminals. Your right to claim damages or shortages is waived upon signing the Bill of Lading.

Nol-Tec cannot take responsibility for any equipment damaged in transit. If you feel any item is questionable, please contact Nol-Tec's Shipping Department at once for assistance.

UNLOADING OF EQUIPMENT

The unloading of equipment, which is the responsibility of the customer or his selected contractor, must be performed with care. This phase of the installation is critical to ensure all equipment is installed in an undamaged state. Nol-Tec cannot take responsibility for damage to equipment during unloading.

All trucks will be loaded in such a way to facilitate existing conditions and unloading equipment availability at the job site; provided the customer or contractor makes Nol-Tec aware of these conditions.

INVENTORY OF EQUIPMENT

Due to the nature of the equipment provided by Nol-Tec, and the methods and work forces necessary to install Nol-Tec systems, we suggest a complete inventory of all items be performed.

This inventory will assure the customer or contractor that all items on the packing list have been received in an undamaged condition, and will aid in your familiarization with the equipment. Any discrepancies in the quality, description of items received, and/or the actual count of pieces must be reported to the Nol-Tec Shipping Department immediately.

STORAGE OF EQUIPMENT

After the receiving, unloading, and inventorying of your shipment, special consideration must be given to the storage of the equipment. All equipment shipped from Nol-Tec is for immediate installation and start-up. No provisions have been made for extended storage or storage in an area which is unsuitable for mechanical equipment.

Many of the pieces of equipment have working surfaces that may corrode if not given special attention. Consequently, warranties and guarantees cannot be honored when it is apparent that good storage procedures have not been exercised prior to installation.

If any questions should arise regarding storage or extended storage, please contact the Nol-Tec Mechanical Engineering department.

PAINTING

Standard Nol-Tec components are provided with one coat of Nol-Tec standard silicone modified alkyd paint with a gloss finish. Tubing, however, is provided unpainted.

Due to the nature of the equipment and the construction techniques required for its installation, you will find painting of the equipment best performed after installation. Care should be taken not to paint any moving parts or sliding surfaces.

Depending on special conditions, painting may not be considered necessary. Nol-Tec advises this be done to ensure maximum life of the system.

USE OF DRAWINGS

Drawings have been provided for proper installation and operation and must be followed closely. Any changes in layout and/or design must be reported to and changes documented and approved by the Nol-Tec Engineering Departments.

NOTE: Installation supervision is recommended and available upon request to insure safe and efficient operation. Contact the Nol-Tec Service Department for details.

A brief explanation of Nol-Tec drawing numbers follows:

1) The letter preceding the drawing number signifies the physical size of the drawing.

    [A] 8½" x 11"
    [B] 11" x 17"
    [C] 18" x 24"
    [D] 24" x 36"

2) The first set of numbers may be either 3 or 4-digits. Three-digit numbers are standard Nol-Tec drawings. Four-digit numbers are for a specific customer, at a specific location. This 4-digit number is your Nol-Tec job number.

3) The letter(s) suffixing the job number is the system designation, representing the specific system the drawing was prepared for.

4) The next digit represents a particular type of drawing for a system.

    [1] General Arrangement
    [2] Installation Detail
    [3] Piping Diagram
    [4] Electrical Control Assembly
    [5] System Bill of Material
    [6] Electrical Schematic
    [7] I/O Wiring Printout
    [8] Flow Diagram
    [9] Field Wiring Diagram
    [10 & above] Any Special Drawings

All drawings may be prepared on multiple sheets.

When contacting Nol-Tec for assistance, having the complete drawing number to be discussed at hand will speed our efforts to assist you.

The drawings you must have in your possession before the start of installation, their title and intended use, are as follows:

General Arrangement [1]

This drawing shows the general location of equipment and how it will be installed in your facility. It is only used to receive approval from the customer regarding scope of supply, location, and interface of the components supplied by Nol-Tec Systems. It is not to be used for equipment installation.

Installation Detail [2]

A mechanical drawing showing the details required for installing the components that come in contact with and convey the material. These components range from inlet valves, transporters, convey line air assist assemblies, switches and couplings to silos, bins, chutes, feeders, etc. These drawings contain dimensions, field erection notes and details relative to the mechanical portion of the system.

Piping Diagram [3]

This drawing shows control air piping required to the various components of the system. It is very important to note this drawing is not to scale. Actual system layout is shown on the Installation Detail. This drawing is to be utilized by the mechanical and contractors, and should be followed exactly.

Electric Control Assembly [4]

An electrical drawing which shows the layout of control enclosure internal components, as well as pushbuttons, selector switches, and pilot lights of the control enclosure.

Equipment List [5]

This is a computer printout of all items that are provided to you by Nol-Tec. The item numbers on this printout relate to balloon numbers that appear on the Installation Detail [2], Piping Diagram [3], and the Wiring Diagram [9]. Only those items shown on this printout will be provided by Nol-Tec Systems. All other items required for the installation of the equipment must be provided by the installation contractor or customer. A typical equipment list heading follows:

Typical Equipment List:

SINGLE LEVEL BILL

CATALOGUE NO.: 12345
ABC COMPANY
PROJECT DESCRIPTION

ITEM	SUBPART	QTY	UOM	PSM*	DWG	SIZE	RL	DESCRIPTION
A001	13946	1		M				TRANSPORTER, 10 CU.FT., MS,ASEM 3'-0" DIA NOL-TEC 1334F-11
A002	10208	1	EA	S				COUPLING, STYLE 99, 10" VICTAULIC 99-10-E

*P = PURCHASED PART S = STOCKED PART M = MANUFACTURE - NOL-TEC ASSEMBLED

Electric Schematic [6]

This drawing is an electrical ladder-type drawing showing the working schematic of the entire system (including the internal wiring of the main control enclosure). This drawing will also show interlocks with other related equipment and takes precedence over the Field Wiring Diagram [9].

I/O Wiring Printout [7]

This drawing is an electrical ladder-type printout showing connections between input/output modules and field equipment, when a programmable controller is used. This drawing takes precedence over the Field Wiring Diagram [9].

Flow Diagram [8]

This drawing, when utilized, is a concept drawing depicting the entire system. This drawing also indicates all major pieces of equipment and shows system flow.

Field Wiring Diagram [9]

This drawing shows the wire connections required to the various components of the system. It is very important to note this drawing is not to scale. Actual system layout is shown on the Installation Detail. This drawing is to be utilized by the electrical contractor.

CODES AND STANDARDS

All equipment should be installed according to accepted industry standards for the appropriate trades used. Only qualified craftsmen should be used to insure safe and proper installation. In all cases, local and national building codes must be followed for installation.

Qualified Nol-Tec field installation supervision is available. Consult Nol-Tec Service Department for details.

INSTALLATION PROCEDURE

Before installation begins, a thorough review should be made of all drawings to determine if any discrepancies between drawings and site exist. This will eliminate any delays during construction.

Access to construction areas should be provided to prevent work stoppages and the various crafts should be coordinated for maximum efficiency.

For best results, installation should begin at either end of the conveying line, using working points and dimensions provided on Installation Detail drawing(s). DO NOT start installation in the middle and work toward the end.

The following is a sequence of installation for a typical Nol-Tec system:

1) Install silo, hopper or other equipment feeding transporter, if applicable.

2) Set transporter in position and level, aligning inlet flange so it is centered with the mating feed equipment. (Refer to COMPONENT INSTALLATION, Transporter for details.)

3) Install inlet and vent valves using flanged adapters, only if all welding is complete on the inside of hopper above. (Refer to COMPONENT INSTALLATION, Butterfly Valves for details.) Bolt quantities and sizes are on fastener schedule. Consult Butterfly Valve Installation Manual for proper torque on bolts.

4) Determine exact location of working point for conveying pipe riser or first elbow in system.

5) Fabricate rigid pipe supports to prevent pipe movement, and tie into available or added structural steel to anchor conveying pipe and bends. Use prefabricated U-bolts or other commercially manufactured strapping devices for pipe. Threaded rod is not adequate and will lead to pipe movement and premature wear. Keep in mind, pneumatic conveying systems and the material traveling through the pipe will generate dynamic forces due to material movement in the conveying line.

NOTE: All conveying pipe longer than 4'0" should be rigidly supported in two places. The couplings provided do not align the pipe. Therefore, accuracy and craftsmanship must be exercised to insure a high quality, maintenance-free system. Tubing and bend support locations are shown on the Installation Detail drawing(s).

6) Lay out conveyor pipe between transporter and first working point and install transporter outlet. (Refer to COMPONENT INSTALLATION, Transporter Outlet for details.)

7) Install conveyor pipe. (Refer to COMPONENT INSTALLATION, Pipe, Conveyor for details.)

8) Tighten conveyor pipe couplings to proper bolt torque as shown in specific coupling installation manual.

9) Install pipe bend or elbow at working point. (Refer to COMPONENT INSTALLATION, Pipe Bends for details.)

10) Determine next working point shown on Installation Detail drawing(s), and lay out conveyor pipe between it and the portion just previously completed.

11) Continue with system installation following above procedures. Remember, work in one direction only. DO NOT start at both ends and work toward the middle.

12) Locate air assist assemblies as shown on Installation Detail drawing(s). (Refer to COMPONENT INSTALLATION, Air Assist Unit for details.)

13) Switches and diverters should be installed as shown on the Installation Detail drawing(s). (Refer to COMPONENT INSTALLATION, Switches for details.)

14) Receivers should be installed only after all pipe, bends and supports have been installed. (Refer to COMPONENT INSTALLATION, Receivers for details.)

15) Dust collectors must be installed dust-tight on frames specified on Installation Detail drawing(s). (Refer to COMPONENT INSTALLATION, Dust Collectors for details.)

AIR PIPING

The air piping for the Nol-Tec system must be installed with care and accuracy to insure the proper quantity and quality of air is delivered to the appropriate use points shown on the Piping Diagram. (Refer to COMPONENT INSTALLATION, Air Controls and System Pressure Controller for details.)

There are two air supply systems required on each Nol-Tec system.

High pressure plant air required for operation of air cylinders and supply to the air assist units.

Pilot control air for air assist assemblies that regulate air supply pressure for material conveying.

Although these two air piping systems perform entirely different functions, the methods and procedures for installing them should be identical.

High quality 150# black iron pipe and fittings should be used and installed using acceptable industry standards and procedures.

The Piping Diagram for the system you are installing should be followed in every detail to insure proper system performance. If any questions should arise, contact the Nol-Tec Engineering Department for details.

The following is a checklist of procedures to follow and consider when installing both air piping systems:

- ❒ All pipe deburred with machine chips removed.
- ❒ Unions should be installed using good piping practice.
- ❒ All pipe runs should be direct with a minimum number of fittings.
- ❒ Shut-off valves should be provided for all high pressure devices.
- ❒ Valves, regulators and filters should be accessibly located.
- ❒ System pressure control assemblies must be located within 20 lineal feet (of piping) of transporter and within 5 lineal feet of a blender/transporter vessel.
- ❒ Safety relief valve and emergency transporter bleed valve outlet should be piped to prevent personal injury.
- ❒ All procedures shown on the Control Piping Diagram general notes must be followed.
- ❒ All air lines must be purged of foreign material before being connected to components (regulators, solenoids, etc.)

INSPECTION AND START-UP

After all equipment has been installed, a thorough check must be made of all components to assure that the system is installed exactly as shown on the drawings provided. This inspection is very critical to assure a correct functioning system that will provide maximum trouble-free service.

A general purpose checklist of items that should be inspected prior to having qualified Nol-Tec personnel start-up your system follows. By reviewing each item thoroughly, you will insure a smoother, trouble-free start-up with maximum safety.

Do not attempt start-up of any equipment without having qualified Nol-Tec personnel present to review the checklist provided and to make other adjustments necessary for proper operation.

For any items not included on the general purpose checklist, consult the Nol-Tec Service Department for details related to start-up.

START-UP CHECKLIST

Be sure that the material being handled is the same as specified in our proposal and stated on Installation Detail drawing(s). Any deviation could affect system performance. The following is a checklist to be reviewed prior to start-up:

Electrical Components

- ❒ Proper power supply connected to electrical control panel.
- ❒ Terminations correctly made to electrical control panel.
- ❒ Electrical control panel and field terminations have wire numbers installed.
- ❒ Limit switches wired and set correctly.
- ❒ Level controls wired and calibrated correctly.
- ❒ Conveying line switches and diverters wired correctly.
- ❒ System pressure control assembly wired correctly.
- ❒ Butterfly valve assemblies wired and set correctly.

Compressed Air Supply

- ❒ Required volume of air available.
- ❒ Required pressure of air available (80-125 PSIG).
- ❒ Required dryness of air available.
- ❒ Compressor piped properly.
- ❒ Dryer located before air receiver tank.
- ❒ Air receiver tank sized correctly.
- ❒ Control air clean and dry.
- ❒ Air filter installed, if required.

Pneumatic Piping

- ❒ No air leaks.
- ❒ All air cylinder ports piped correctly.
- ❒ Air piping per Nol-Tec prints.
- ❒ Check valves installed properly per flow arrows.
- ❒ Solenoid valves piped correctly including those on dust collectors.
- ❒ Hoses installed correctly, no kinks or restriction.
- ❒ System pressure control panels located per print and operate correctly.
- ❒ Regulators, oilers and filters installed in proper sequence and operational.

Mechanical Components

- ❒ Transporters located correctly.
- ❒ Transporters set correctly - straight, level and lagged to the floor.
- ❒ Transporters cleaned of installation debris.
- ❒ Butterfly valves aligned and manually operated - no flange gaskets used - flat and lock washers used.
- ❒ Conveyor line located per drawing(s).
- ❒ All pipes aligned.
- ❒ All supports adequate.
- ❒ Couplings installed to specifications.
- ❒ Air assist assemblies correctly installed (air inlets at top, flow direction correct).
- ❒ Conveying line switches installed correctly.
- ❒ Switches aligned correctly.
- ❒ Receivers installed correctly.
- ❒ Dust collectors installed correctly.
- ❒ Bins or hoppers installed correctly.
- ❒ Silos installed correctly.
- ❒ Level controls installed in the correct position for the application.
- ❒ Level controls calibrated.

Weigh System

- ❒ Load cells installed correctly.
- ❒ Load cell cables of the proper type utilized and installed in separate conduits.
- ❒ Load cell junction boxes installed as required.
- ❒ All load cell cable terminations complete.
- ❒ Scales calibrated.

FIELD MODIFICATIONS

All field modifications approved by ***Nol-Tec*** and implemented should be noted on ***Nol-Tec*** drawings and returned so existing records can be revised and kept up-to-date for future reference.

COMPONENT INSTALLATION

AIR ASSIST UNITS

1) Install air assist units exactly as shown on Installation Detail drawing(s), as follows:

2) Locate air assist unit placement and drill 3/4" diameter hole on top centerline of conveying tubing. Never install on sides or bottom of bottom of tubing. 45 degree maximum either side of top of tubing is permissible for 3/4" diameter hole.

3) Position 3/4" coupling or weld-o-let on pipe, and weld into position. Clean hole and remove all internal shavings, weld slag and splatter.

4) Install air assist unit controls as shown on Control Wiring and Piping drawing(s).

5) The pilot regulator must be installed in the horizontal position.

6) The pilot regulator must be at a higher elevation than the connection to the convey line.

AIR CONTROLS AND SYSTEM PRESSURE CONTROLLER

1) Air piping drawing(s) have been provided for ease of maintenance and should be followed exactly.

2) Be sure that all pipe ends have been deburred and cleaned internally of shavings before piping to minimize damage to solenoid valves, air cylinders, etc.

3) Locate the main system pressure controller above ground, if possible, within 20 feet of the transporter so that regular preventive maintenance can be performed. Do not locate system pressure control in an inaccessible location.

4) All pipe sizes shown on the air piping drawing(s) should be followed exactly.

5) Check to be sure that filters, regulators, solenoid valves and check valves are not installed backward.

6) Air supply to the system pressure controller should be 80-100 PSIG (unless specified otherwise) and sized for air consumption as indicated on drawing(s).

7) Pressure switch air line should be piped with a minimum of 12" of vertical 1-1/2" pipe. The remainder must be piped with 1/4".

AIR ACTIVATED GRAVITY CONVEYORS

1) Air activated gravity conveyors (AAGC's) must be installed starting from the fixed outlet and work toward the adjustable inlet.

2) All AAGC's are shipped in maximum 20 foot lengths to eliminate field work. Care should be taken when installing, that the drawings are followed exactly to insure the correct sections are installed in their appropriate position.

3) The outlet of the AAGC should be aligned with the inlet of the receiving hopper on bin, and supported.

4) The next adjacent section should then be installed, working toward the inlet section, which has an adjustable inlet collar, to compensate for any length variations.

5) The degree of slope must be maintained per the Installation Detail drawing(s) for proper fit up.

6) The adjustable inlet should be positioned and aligned with the discharge feeding hopper or bin and continuously welded in place air tight. There is a protective sheet metal covering which must be removed from the interior of the AAGC after this welding is completed to allow for material flow. This part may be removed by taking the back cover of the AAGC off and sliding it out.

7) Support should be adjusted and securely fastened and inlet and outlet connections secured.

8) AAGC air supply must be piped exactly as shown on the assembly drawing or system Piping Diagram.

BLENDING CONE

Before installation of the blending cone, a thorough review of the blending cone installation drawing, D-244-801, and the assembly drawing, D-244-800, is recommended.

Blending Cone to Blending Vessel

An 18" grooved-end pipe coupling is used to attach the blending cone to the blending vessel. For assembly, proceed as follows:

1) Check coupling gasket supplied to be certain it is not damaged.

2) Lubricate gasket by applying a thin, uniform coat of silicone lubricant using either one of the following methods:

   Method 1: Brush lubricant on pipe ends around entire pipe circumference and inside coupling housing.

   Method 2: Brush lubricant on rubber gasket lips (I.D.) and outside of gasket.

3) Slide coupling gasket onto blender vessel flange.

4) Raise blending cone until flange on blender and flange on bottom of blending vessel mate. The two flanges must be concentrically aligned.

5) The 18" grooved-end coupling has a four-part housing. Assemble two quarters and torque bolts making coupling into two parts.

6) Center the coupling gasket over the joint between the two mating flanges.

7) Affix two flanges together with halves of 18" coupling.

CAUTION: Extreme care must be taken to assure coupling has full contact with flange edges. Failure to do this may cause harm to personnel or equipment.

8) Tighten nuts uniformly, alternating sides, until bolt pads are firmly together (metal to metal contact).

Butterfly Valve to Blending Cone

To attach the butterfly valve to the discharge of the blending cone, proceed as follows:

1) The butterfly valve should be oriented per the installation drawing and lifted up into position.

2) The blender outlet must be oriented per the system installation drawing, lifted into position, and used to secure the butterfly valve to the blending cone. Bolts with lockwashers as specified on the installation drawing are to be used to fasten it into position.

3) The butterfly valve must be installed in the open position and bolts tightened evenly.

Do not use flange gaskets. Lockwashers must be used.

CAUTION: Care must be taken to insure the proper positioning of the discharge butterfly valve between the mounting flanges. The valve must be perfectly centered between both top and bottom flanges. If it is not, the butterfly valve seat could be pinched between the valve disk and the sharp edge of the mounting flange damaging the seat and causing leakage and blow-by.

4) Once the butterfly valve has been properly installed, apply air to the actuator and cycle the valve to insure valve operates smoothly. Close valve and check butterfly disk to insure it is centered and fully seated.

Blending Cone Manifold to Blending Cone

To connect the blending cone manifold to the blending cone, proceed as follows:

1) Connect filtered and regulated blending air to the 2" diameter blending cone manifold supply port. (See Piping Diagram for system if applicable.)

2) Connect blending cone manifold to each of the six (6) individual piston manifolds using 1" hose assemblies.

Air Supply, Control

1) Air control supply piping should be at least 1/2" NPT. Insure air piping is kept free of all chips and debris during installation.

2) Filtered, non-lubricated air at 80 PSIG minimum is required, unless specified otherwise.

3) Connection required to port "P" on piston air cylinder and discharge butterfly valve solenoids.

Electrical

Make electrical connections in accordance with applicable electrical codes and Field Wiring Diagram when applicable.

General

Verify that all fasteners are tight and air connections do not leak.

BUTTERFLY VALVES

1) The butterfly valves should be installed in the open position, and bolts tightened evenly.

Do not use flange gaskets. Flat and lock washers must also be used.

CAUTION: Care must be used in properly aligning the butterfly valve body between the mounting flanges. Valve must be perfectly centered between both top and bottom flanges. This must be done with the valve in the open position. If the valve is not, the butterfly valve seat could be pinched between the valve disk and the sharp edge of the mounting flange, damaging the seat and causing leakage and blow-by.

2) Once the butterfly valve has been properly installed, apply air to the actuator and cycle the valve to insure valve operates smoothly. Close valve and check butterfly disk to insure it is centered and fully seated.

COUPLINGS, PLAIN END PIPE GRIP

After pipe and components, such as switches and receivers, have been properly aligned and rigidly secured, the couplings may be installed.

NOTE: The coupling will not align the conveyor tubing.

Install as follows:

1) Mark pipe 15/16" from end.

2) Check coupling gasket supplied to be certain it is not damaged.

3) Place gasket on one pipe end, butt pipes and center the gasket between the marks made in Step 1.

4) Install housings over gasket. Insert bolts and start nuts. (All sizes of plain end, pipe grip couplings, except 1-1/2", have a tongue and recess design and must be properly mated.)

5) Tighten nuts uniformly to torque specification for coupling size.

COUPLINGS, GROOVED-END

After pipe and components, such as switches and receivers, have been properly aligned and rigidly secured, the couplings may be installed.

NOTE: The coupling will not align the conveyor tubing.

Install as follows:

1) Check coupling gasket supplied to be certain it is not damaged.

2) Lubricate gasket by applying a thin, uniform coat of silicone lubricant using either one of the following methods:

   Method 1: Brush lubricant on pipe ends around entire pipe circumference and inside coupling housing.

   Method 2: Brush lubricant on rubber gasket lips (I.D.) and outside of gasket.

3) Place gasket on one pipe end, butt pipes, and center the gasket over the joint between the pipe ends.

4) Install housings over gasket. Insert bolts and start nuts.

5) Tighten nuts uniformly to torque specification for coupling size.

COUPLINGS, COMPRESSION

After pipe and components, such as switches and receivers, have been properly aligned and rigidly secured, the couplings may be installed.

NOTE: The couplings will not align the conveyor tubing.

Install as follows:

1) Be sure outside surface of pipe is dry and free of dirt, grease, or external burrs. (Burrs and jagged pipe ends can cut gasket; dirt and grease can cause coupling slippage.)

2) Grasp coupling to keep gasket, sleeve, and gasket protector in separate quadrants. Be sure gasket teeth mesh and do not overlap.

3) Slide coupling over one pipe, past end, then butt pipe ends. Slide coupling back until coupling and gasket protector is centered over joint. Use care when slicing coupling into place. Avoid wrinkling or overlapping gasket or gasket protector.
4) When static electricity bleed path is required, a grounding strip should be used.

5) Partially tighten bolts uniformly to insure proper seating of inner sleeve and gasket.

6) Tighten bolts evenly, as follows:

5/16 bolt size	12 ft. lbs. torque
1/2 bolt size	43 ft. lbs. torque
5/8 bolt size	65 ft. lbs. torque
3/4 bolt size	95 ft. lbs. torque

Where SAE Grade 5, 5/8 bolts are specified, tighten to 95 ft. lbs. For couplings with aluminum shell and inner sleeve do not exceed 40 ft. lbs.

7) When properly and evenly tightened to the recommended torque, the coupling installation is complete. The top edges of the flanges will touch and flanges appear as a "V" when viewed from the end.

8) Do not attempt tightening bolts to flatten flange faces together, as this exceeds recommended limits.

DUST COLLECTORS

Install dust collector(s) on mounting flange exactly as shown on Installation Detail drawing(s). A high grade silicone-type caulking is recommended. Place caulking on mounting flange in an adequate quantity to ensure a dust-tight seal. Fasten to mounting flange using 3/8" UNC bolts, nuts and lock washers as indicated on fastener schedule.

Bag and Cage Installation

1) Slip the Bag over the Bag Cage. Bag seam to be opposite side of gap in cage.

2) Fold the top two (2)" of the Bag over the seal ring at the top of the Cage, smoothing out all of the folds on the interior. The Bag material must not overlap the Annular Ring.

3) Slide the Bag and Bag Cage onto the Bag Cup until the Annular Ring on the Cage snaps into the corresponding groove on the Bag Cup.

4) Place a clamp around the Bag 1 – 1 ½" below the tube sheet and feed the slotted end of the clamp under the worm screw. Locate worm screw between bag seam and gap in cage. The Bag Clamp must be in the correct position or a poor dust seal may result.

5) Tighten the clamp until the Bag cannot be rotated about the Bag Cup by hand.

NOTE: Improper cage and bag installation will cause dust to leak to atmosphere. Special care in installation will prevent this.

Manifold Installation (Installed at factory)

1) Insert short end of angle valve onto manifold pipe stubs.

2) Hand-tighten fittings.

3) Insert long ends of valves onto pipe stubs on housing and slide assembly into position.

4) Bolt manifold into place.

5) Tighten fittings on angle valves using pipe wrench. DO NOT over-tighten.

Dust Collectors continued

Control Assembly Installation

1) Remove loose fittings and hose from interior of control enclosure shipping carton.

2) Remove 3/8" bolts, nuts, and lock washers from front of manifold and use to bolt control enclosure to tabs provided on manifold.

3) Cut polytubing to appropriate lengths and push into fittings to complete connection between valve on enclosure and angle valve on dust collector. If polytubing is not inserted properly in fittings, the angle valve will continuously pass air.

Weatherhood and Birdscreen Installation

1) Slip hood over stub located near top of collector and fasten with sheet metal screws.

Air Connection

1) Connect clean dry air to the manifold of the dust collector as shown on Control Wiring and Piping drawing(s). A service valve and air pressure gauge is recommended.

Magnehelic Gauge Assembly

1) Install the two 1/8" pipe plugs supplied with the magnehelic gauge, into the high and low pressure side ports of the magnehelic gauge.

2) Install the 1/4" by 2" long pipe nipple in the high pressure (dirty air plenum) port in the dust filter housing.

3) Install the 1/4" tee onto the pipe nipple from the filter housing.

4) Install the second 1/4" by 2" long pipe nipple in the 1/4" tee.

5) Screw the needle valve into the second 1/4" by 2" pipe nipple, with the flow direction (arrow) towards the dust filter housing.

6) Install two 1/4" by 1/8" reducing bushings, one in the 1/4" port in the low pressure (clean air plenum) port and the other in the purge line tee.

7) Install the two hose fittings - one in the low pressure (clean air plenum) port in the dust filter housing, and one in the purge line tee.

8) Attach the 3/16" O.D. tube from the low pressure side (clean air plenum) of the dust filter to the low pressure port of the gauge, and from the purge line tee to the high pressure port of the gauge.

9) Open purge line needle valve 1/4 to 1/2 turn from the closed position. The small amount of air flow of the purge needle valve should not affect the position of the gauge, but will keep contaminates from the dust filter from backing up into the Magnehelic gauge.

Photohelic Gauge Assembly

1) Install the piping the same as described in the Magnehelic Gauge Assembly section.

2) Remove three (3) screws on the back cover of the gauge. This will remove the back cover of the gauge for wiring and conduit connection.

3) Install 1/2" flexible conduit between Photohelic gauge cover and Timer board enclosure. Support this conduit to prevent undue strain on the instrument.

4) Terminate Photohelic Gauge to Dust Filter Timer board as described on page 5, and on Dwyer bulletin B-33.

5) Set adjustable pointer to 6" on the gauge front scale. This will now signal the bags to clean when the differential pressure reaches this set point. This is only an approximate set point, your situation may call for a different setting.

ELECTRICAL CONTROL ASSEMBLY

The electrical control cabinet should be installed in an accessible area, safe for operating personnel.

Suggested Location:

1) Install **away** from traffic area, where heavy equipment such as fork lifts, are operating.

2) Position so cabinet door(s) can fully open. A minimum of three feet clearance in front of doors is suggested.

3) Protect from weather, adjacent water lines, drains, etc., which may damage electrical components.

4) Do not install near an excessive vibration area.

5) Cabinet should be located where visual and audible alarms can be monitored if situation arises - near system pressure controller and transporter if possible.

6) Protect cabinet from contacting product being handled. Excessive dust and accumulation on cabinet may create maintenance problems.

7) Field wiring shall conform to local and national electrical codes.

8) Do not run wire not associated with Nol-Tec equipment through control cabinet, if at all possible. Remote cabinets (when applicable) should be given the same consideration.

9) All electrical cabinets should be permanently secured in place.

FASTENERS

1) All fasteners for attaching and connecting equipment during erection are the responsibility of the customer or installation contractor.

2) Fasteners used on pressure vessels should be a minimum of SAE Grade 1, or ASTM A307, with coating to prevent rusting. Fasteners used on all other components should be SAE Grade 5, or ASTM A325 with coating to prevent rusting.

3) A fastener schedule is provided on the installation detail to inform the supplier of the size, length and quantity that is required. The quantities indicated are exact, leaving the amount of overage on each item to the installer's discretion.

KNIFE GATES

1) Knife gates must be installed exactly as shown on the Installation Detail drawing(s).

2) The orientation of the knife gate and adequate clearance for the hand wheel operator or air cylinder must be considered.

3) Knife gates must be installed between two 150 pound flanges, with ring or full face gaskets on both sides of valve.

4) See fastener schedule for proper bolt diameter and length.

LEVEL CONTROLS

Nol-Tec Systems utilizes a capacitance-type level control, with either the standard probe or cable extension. The calibration is done via an adjusting screw inside the cover.

1) Level controls installed in transporters must be located low enough to allow the inlet valve to close completely before material backs up into the valve, overfills the transporter and prevents valve from closing.

2) All level controls used to indicate high level in silos, receiving bins or hoppers, fed by a transport system, should be located low enough so that after it is actuated (covered) there is room for at least one full transport batch of material above the level control.

PIPE, CONVEYOR

1) All straight pipe should be saw cut and the ends dressed square. All nicks, burrs, and rough edges should be removed. Do not attempt to cut the conveyor pipe with a torch.

2) Each piece of conveyor pipe, including pipe bends, should be supported independently and rigidly so that it can be removed without disturbing the alignment of an adjacent piece of pipe. Any pipe section in excess of four feet, must have at least two supports.

3) Important: All runs must be level, plump, in-line, and straight from end-to-end with no misalignment at pipe joints to cause excessive and/or premature wear.

4) Pipe bends and straight pipe may have a tendency to sway or move laterally and must have rigid support.

5) Do not weld sway braces, hangers or connect auxiliary equipment to the conveyor pipe.

6) U-bolts or strap clamps which contact pipe should be used.

7) The conveyor pipe has been designed to butt together. There should be no gaps between pipe joints.

8) Please consult the Nol-Tec Mechanical Engineering Department for recommendations.

PIPE BENDS

CAUTION: Total ceramic pipe bends and wear resistant elbows are very fragile. They must be handled with care to prevent damage.

1) Pipe bends must be installed exactly as shown on the Installation Detail drawing(s). Air assist unit placement is selected according to location of these bends. Consequently, any variations may adversely affect the performance of the system. Nol-Tec will assist you if, for any reason, changes must be made.

2) Support of the pipe bends is very critical due to the dynamic forces generated by the material in the conveying line. All pipe bends must be rigidly supported with structural steel using holes in end plates on backed pipe bends, or commercially available fasteners as described in conveying line support section of this manual.

RECEIVERS

1) Receivers should be installed only after all tubing, bends, and supports have been installed.

2) The receivers should be set in place per the Installation Detail drawing(s), and welded in place with an airtight continuous weld.

3) Receivers may be set on top of flanges, or set into receiving tank, depending on design.

4) Correct alignment of tubing to inlet stub is important. Misalignment can cause premature wear, particle degradation, or system plugging.

SLIDE GATES

1) Slide gates must be installed exactly as shown on Installation Detail drawing(s).

2) The orientation of the slide gate and adequate clearance for the removal and placement of the slide gate must be considered.

3) Weld or bolt slide gate in place, dust-tight, after checking alignment.

SWITCHES, AUTOMATIC TWO-WAY

Switches are shipped in either right or left-hand configurations. Check that the switch is correct for your application. Before installation is started, a thorough review of the Installation Detail drawing(s) is recommended.

Setting, Securing, and Guarding

1) Switch must be installed with independent rigid support, free of, but aligned with, conveyor pipe and bolted in place. **DO NOT weld on switch.**

2) A service platform is recommended to provide adequate accessibility for inspection and maintenance.

3) Provide service stubs on inlet and outlet pipe sections as shown on Installation Detail drawing(s).

4) Install suitable guards, as required, to protect personnel from injury during operation and to protect the switch from external damage.

5) For outside applications, switch must be protected from rain, snow and ice. Nol-Tec offers optional weather covers for this purpose if you desire.

Air Supply

1) Air control supply piping should be at least 1/2 " NPT. Insure air supply piping is kept free of all chips and debris during installation.

2) Filtered, non-lubricated, air at 80 PSIG minimum is required, unless otherwise specified.

Electrical

1) Electrical connection to be made in accordance with applicable electrical codes and the Field Wiring Diagram.

SWITCHES, MANUAL HOSE

1) Install the center riser (manual hose switch adapter) of a group at height shown on Installation Detail drawing(s).

2) Attach manual hose discharge to this riser and establish longest hose length with radius as specified on drawing. Field cut tubing that attaches to inlet of manual switch.

3) With inlet attached, establish heights of other manual hose switch adapters, again using a radius as close to nominal dimension shown on drawings.

4) Proceed to connect all manual hose switch adapters in the same manner.

5) When all connections have been made, firmly support conveying pipe on inlet and outlet of manual hose switch.

TRANSPORTER

1) Locate transporter according to Installation Detail drawing(s).

2) Manhole or handhole in transporter should be located for easy access and according to Installation Detail drawing(s).

3) Access to at least two sides of the transporter should be furnished.

4) Shim or grout the transporter legs so that the transporter is straight and level and that it conforms to the tubing arrangement drawing.

5) Permanently bolt the transporter to the floor. Bolt holes in legs are provided.

6) Each transporter has:

   Four (4) 1 1/2" couplings on top head:
   One (1) to accept safety relief valve and emergency bleed.
   One (1) to accept level control (if used).
   One (1) for main air inlet.
   One (1) as a spare.

   Two (2) minimum, twelve (12) maximum, conical bottom jet connections.

   One (1) 360 degree rotating outlet.

7) Inspect manhole bolts and tighten as they may loosen during shipment.

8) If the transporter is located in a pit, provide a sump pit with a sump pump (if necessary) to keep pit dry.

9) Wherever possible, all threaded openings on the top of the transporter should be left in the clear to make room for possible piping and equipment.

TRANSPORTER OUTLET

1) The transporter outlet is attached utilizing a grooved-end pipe coupling.

2) Place the flange ends of the transporter and transporter outlet face-to-face and slip the grooved-end pipe coupling gasket around the circumference of the pipes.

3) Place the two halves of the couplings around the pipe with the lip of the coupling catching the top and bottom of the respective pipe.

4) Install bolts in coupling and torque until vertical surface of couplings bottom out.

INSTRUCTIONS FOR STORAGE OF NOL-TEC EQUIPMENT

www.nol-tec.com
425 Apollo Drive ▪ Lino Lakes, MN 55014
Telephone US 651-780-8600

5.087.ENGR.08.24.07.02

STORAGE OF EQUIPMENT

After receiving, unloading, and inventory of your Nol-Tec supplied equipment, particular consideration must be given to storage. All shipments of Nol-Tec equipment are for immediate installation and start-up. No provisions have been made for extended storage, or storage in an area which is unsuitable for mechanical equipment.

Many pieces of equipment have working surfaces that may corrode if not given special attention. Consequently, warranties and guarantees cannot be honored when it is apparent good storage procedures have not been exercised prior to installation.

After reviewing these instructions, should questions arise regarding storage or extended storage, please contact the Nol-Tec Mechanical Engineering Department.

INDOOR STORAGE BUILDING - NOT CONTAINER
(Without Climate Control)

The following types and pieces of equipment must be stored in a dry, temperate atmosphere to prevent damage from corrosion, deterioration, etc. Refer to Page 6 of this manual for Storage Precautions prior to placing any equipment into storage or extended storage.

3A DAIRY EQUIPMENT

COMPUTER EQUIPMENT

CONTROL PANELS OR ENCLOSURES

ELECTRIC ACTUATORS

FILTER BAGS

FILTER CARTRIDGES

FLEX WALL FEEDERS

LINEAR TRANSDUCERS & POTENTIOMETERS

PIPE INSULATION

PRINTERS

ROTARY VALVES

SCREENERS

Equipment not listed, but that should be considered for **Indoor Storage** include items that are not packaged for outdoor storage, and that will be affected by the elements.

COVERED STORAGE
Protection From Rain & Snow

The following types and pieces of equipment must be stored covered from the weather to prevent damage. Refer to Page 6 of this manual for Storage Precautions prior to placing any equipment into storage or extended storage.

AIR PAD BOTTOMS

AIR ACTIVATED GRAVITY CONVEYORS

BAG CAGES

BAG DUMPS

BIN DISCHARGERS

BIN FILL VALVES

BLEND CONES

BLOWER PACKAGE

BULK BAG UNLOADERS WITH HOISTS

BUTTERFLY VALVES

DIVERTERS

MAGNETIC GRATES

MANUAL HOSE SWITCHES

PALLET BOXES

PINCH VALVES

SCREW CONVEYORS

VIBRATORY CONVEYORS

Equipment not listed, but which should be considered for **Covered Storage** include items that can tolerate wetness, but should not be exposed to long periods of moisture.

UNCOVERED OUTDOOR STORAGE

The following types and pieces of equipment may be stored outdoors. Refer to Page 6 of this manual for Storage Precautions prior to placing any equipment into storage or extended storage.

BENDS/ELBOWS

COUPLINGS

CYCLONE

DUST COLLECTORS

HOPPERS

PIPE

RECEIVERS

SUPPORT STEEL & LADDERS

TRANSPORTER

VACUUM RECEIVERS

Equipment not listed, but that should be considered for **Uncovered Outdoor Storage** include items that are supplied or designed for installation and use outdoors.

STORAGE PRECAUTIONS

1. Check for missing parts prior to storage. Report all missing parts to Nol-Tec Systems. Nol-Tec Systems will not be responsible for parts reported missing after 30 days of shipment.

2. Inspect equipment prior to storage. “Damage in transit” claims need to be filed as soon as possible. Painted equipment should be checked for scratches and gouges, which may occur in shipping and handling. These should be touched-up to prevent rusting.

3. Stored items should have a visual inspection every 3 months.

4. Equipment with motors: Follow manufacture’s directions for rotation intervals.

5. Shipping containers holding equipment should be water tight and stored in an area that does not allow the internal temperature to exceed 140º F.

6. Supply pallet boxes with waterproof bases.

7. Add desiccant to pallet boxes & shrink-wrap boxes.

8. Seal all air line openings with plastic plugs or caps.

9. Seal all tank openings with wood covers or duct tape.

10. Do not seal bins or other mechanical equipment with shrink-wrap or other plastic coatings that may promote condensations.

11. Close doors on dust collectors, receiving bins, vacuum receivers, and cyclones to reduce the introduction of moisture.

12. Add desiccant to inside of unpainted bins or containers. Do not contaminate unpainted interior surfaces with oil.

13. Pipe & bends should have plastic end plugs or caps.

14. Mild steel pipe should be coated with lacquer type finish from the mill or finished painted.

15. All electrical junction boxes, control enclosure limit switch boxes, and other electrical enclosures should have desiccant pads and be securely closed.

16. Equipment should be blocked-up off the ground.

17. Thorough inspection of parts is required prior to installation after prolonged storage.

18. Warranty of equipment supplied by other vendors to Nol-Tec Systems will start on the date of receipt of said equipment. Nol-Tec’s manufactured equipment warranty will start at the time of commissioning, based on proper storage of said equipment.

NOL-TEC SYSTEMS

MAINTENANCE SCHEDULE

www.nol-tec.com
425 Apollo Drive ▪ Lino Lakes, MN 55014
Telephone US 651-780-8600

5.065.ENGR.01.18.07.01

Important Notice

Improperly maintained and operated Nol-Tec equipment can result in property damage, and/or serious bodily injury. Failure to properly maintain and/or operate the equipment will void any and all warranties of the manufacturer's workmanship and designs. If you are not qualified, trained and authorized to perform maintenance of the Nol-Tec equipment, report to your supervisor and obtain their direction in these regards.

*****

This manual is intended for the User of the equipment manufactured by NOL-TEC SYSTEMS INC., Lino Lakes, MN, USA. It must be read by the operator and the workman installing and maintaining this equipment.

1. This manual describes general use limits and includes technical specifications for installation, maintenance, trouble shooting and parts list. It also includes information on safety devices and instructions about User safety.
2. This manual is an integral part of the equipment and must be kept for reference.
3. The manual should be kept in a safe place.
4. The User can suggest changes to improve this manual to the Manufacturer or his Agent. Suggestions will be appreciated and reviewed to determine merit.
5. The Manufacturer disclaims responsibility in case of:
   a) Improper use of equipment.
   b) Use not in compliance with specific laws even if these are subsequent to the sale date of this equipment.
   c) Incorrect installation.
   d) Feed damages.
   e) Serious failure in the expected maintenance.
   f) Unauthorized modifications to the equipment.
   g) Removing or deleting the security devices and signals.
   h) Use of parts manufactured by other than the original manufacturer.
   i) Total or partial non-observance of the instructions supplied in this manual.
   j) Exceptional or unpredictable events.
   k) Improper use of the equipment with mateirals or in situations not expressly authorized by the Manufacturer.
6. Before moving, installing or using the equipment, carefully read this manual.
7. It is necessary to evaluate carefully the possibility of using this equipment with inflammable, corrosive, explosive materials, or material for which particular precautions are prescribed.

TABLE OF CONTENTS

Recommended Equipment Maintenance

AERATION JETS

Note: Follow manufacturer's service recommendations.

WEEKLY

+ Visually inspect air fittings, hose, etc. for leaks.
+ During normal operation verify aeration air solenoid valve is cycling and airflow to each jet is achieved.

MONTHLY

+ From the maintenance screen of the control system, manually open the aeration air solenoid valve. Then individually check each jet by restricting airflow through the jet hose to audibly detect airflow. If no flow is detected, disassemble to remove any foreign material.

AIR ASSISTS

Note Air assist needle valve settings should be as defined in the "system air control settings" provided in the documentation package.

MONTHLY

+ Check hoses. Cracks in the outer cover indicate a leaking hose.
+ Check polytube and fittings for deterioration and air leaks.
+ With convey system at rest, check for audible evidence of airflow through the unit. Airflow indicates dirty or damaged regulator diaphragms.
+ Check each air assist for air flow as follows:
  - Turn transporter selector switch to disable.
  - Manually override the system pilot air solenoid valve to activate all air assists in the convey line.
  - Check each air assist individually by restricting airflow through the air assist hose. An increase of pressure on the air assist gauge indicates airflow through the assembly. If no flow is determined, disassemble and remove any foreign material between conveying line and pilot regulator.

ANNUALLY

+ Replace pilot regulator diaphragms.

BUTTERFLY VALVE

WEEKLY

+ Check tubing and fittings for deterioration and leaks.
+ Visually check compressed air filter for water and foreign material in bowl.
+ During normal system operation observe the actuator position indicator for smooth full operation.

EVERY 6 MONTHS

+ Check the valve disc and seat for excessive wear. Valves operating with a high-pressure differential should be checked every 3 months.

BAG DUMP

WEEKLY

+ Check polytube and fittings for leaks. If blow-down air is constantly on, the polytube is leaking.
+ Operate the filter cleaning cycle for each of the cartridges to ensure the diaphragm valves are functioning, providing reverse jet cleaning.
+ Visually check exhaust air for dust emission while in operation.

MONTHLY

+ Ensure that compressed air supply is 80 PSIG minimum.
+ Verify that pressure regulator is set at 60 PSIG.

BLENDER

Note Refer to Nol-Tec Blender Manual.

BLOWER PACKAGE

Note Follow manufacturer's service recommendations.

WEEKLY

+ Check inlet filter for debris and foreign material

MONTHLY

+ Check air pump for signs of oil leaks.
+ Check drive belts for excessive wear and proper tension.
+ Verify weighted pressure relief valve is moving freely.

BROKEN BAG DETECTOR

EVERY 6 MONTHS

+ Check wiring in the control head for loose connections.

ANNUALLY

+ Remove probe from the duct and clean off any accumulated dust

CONVEY LINE BENDS & ELBOWS

EVERY 3 MONTHS

+ Visually check exterior of elbow or bend for signs of wearing through.
+ Check inlet and outlet couplings for leakage.
+ Visually check that all bolting hardware is secure.

COUPLINGS & FLANGE CONNECTIONS

EVERY 3 MONTHS

+ Check for leakage.
+ Visually check that bolting hardware is secure.

DUST COLLECTOR/ VACUUM FILTER RECEIVER

WEEKLY

+ Ensure that compressed air supply is 80 PSIG minimum
+ Check polytube fittings for leaks. If blow-down air stays on, the polytube is leaking air.
+ Check filter bags by watching the magnehelic gauge. Bags should be changed when the magnehelic gauge does not go below 6" W.C. after cleaning.
+ Visually check exhaust air for material emission during a convey cycle.

MONTHLY

+ Check door gasket seal. As gasket takes a set it may be necessary to adjust the door hinges. Replace if necessary.

DUST COLLECTOR CONTROL ENCLOSURE

Note Repeat cycle timer settings should be per the "system air control settings" provided with your documentation package.

WEEKLY

+ During a normal convey cycle confirm that repeat cycle timer, control solenoid valves and diaphragm valves are functioning to provide the reverse jet bag cleaning.

DUST COLLECTOR MAGNEHELIC GAUGE ASSEMBLY

Note Pressure should not exceed 10 inches WC, with the exception of the instantaneous spike at the end of the convey cycle.

WEEKLY

+ Visually check polytubing and fitting for signs of deterioration and leaks.
+ Check that air purge is open.

MONTHLY

+ Verify that the gauge is at zero while system is at rest.
+ During a convey cycle, verify that gauge pressure fluctuates, rising gradually then falling off after each cleaning cycle.

DUST FILTER – SINGLE CARTRIDGE

WEEKLY

+ Visually check exhaust air for dust emissions from filter housing during process.
+ During vessel discharge verify that the cleaning air solenoid valve is cycling and air pulsing is achieved.

DUST FILTER – BAGS

WEEKLY

+ Visually check exhaust air for dust emissions from filter housing during process.
+ During vessel discharge verify that the cleaning air solenoid valve is cycling and air pulsing is achieved.

LEVEL CONTROLS

Note To manually check level control, a wooden or metal rod can be used to touch the probe. Be sure that the rod used to touch the probe is without an electrical charge and disconnected from any and all electrical systems.

MONTHLY

+ Remove the cover on the level control unit and check the LED to verify the status. If the probe is not touching material the LED should be on.
+ Low level controls should be checked at the control panel for a positive indicator light. If there is not a high level signal the bin material level should be visually checked. If the probe is completely uncovered it can be manually checked to ensure functionality.

LOSS-IN-WEIGHT FEEDERS

WEEKLY

+ Clean screw and screw tube.
+ Screw: Check for damage - replace if necessary.
+ Sleeves: Check for damage caused by wear, ageing, brittleness or breakage.
+ Sleeves: Check for proper fastening.
+ All Movable Parts: Check to see that no dust or dirt has formed a deposit. Clean all parts as necessary.
+ Check all earth connections.
+ Calibrate load cell on loss-in-weight feeder.
+ Electrical Connections: Check for any mechanical damage.

MONTHLY

+ Shaft Sealing: Check for tightness. In case of a leak, product would fall to the bottom of the housing.
+ Check to ensure all electrical screw connections are well tightened.

MANUAL HOSE (SWITCH)

WEEKLY

+ Check hose for leakage.
+ Check camlock end fitting for secure fit and any signs of leakage.
+ Visually check that bolting hardware is secure.

EVERY 3 MONTHS

+ Visually check inside of hose for excessive wear.

ROTARY AIRLOCK

Note: Follow manufacturer's service recommendations. Line plugging after commissioning the system could mean rotor wear.

WEEKLY

+ Inspect for material leakage.

MONTHLY

+ Check gear reducer for signs of oil leaks
+ During operation check for audible detection of a loose chain.

SCREW CONVEYOR

Note Follow manufacturer's service recommendations.

WEEKLY

+ Check for material leakage.
+ Check outlet butterfly valve for proper operation. (See butterfly valve checklist.)

MONTHLY

+ Check gear reducer for signs of oil leaks.
+ Check drive belts for excessive wear and proper tension.

SURGE HOPPER

WEEKLY

+ Check all inlet and outlet flexible boot connectors, air and electrical connections to ensure there are no adverse loadings being applied that would affect weighing accuracy.
+ Check hopper top and remove any accumulated materials or foreign objects.
+ Check inside of hopper for any material build-up and remove as necessary.
+ Check discharge butterfly valve for proper operation. (See butterfly valve checklist.)

MONTHLY

+ Check aeration jets (See aeration jet check list.)

SWITCH, TWO-WAY HOSE

WEEKLY

+ Check for material leakage.
+ Visually check compressed air filter for water and foreign material in the bowl.
+ Observe the switch operation to ensure the following:
  - Sealing cylinders are retracting to provide adequate clearance of the tube end seal as it swings from position to position.
  - Positioning cylinder is extending and retracting fully. Inspect the backside of the rod stop collar for material buildup that would prevent the cylinder from retracting completely.
  - Position limit switch is being fully actuated by its flag to give a "Position Made" signal.
  - Unseal switch is being fully actuated by its stud bolt to give an "Unseal" signal.
  - Off-leg seal assemblies are making adequate contact to provide for sealing the off-leg convey line of the switch.
+ Check tubing and fittings for deterioration and leaks.
+ Visually check exterior of switch tube for signs of wearing through.
+ Visually check assembly that bolting hardware and all components are secure.

EVERY 6 MONTHS

+ Visually check inside of switch tube for excessive wear.

TRANSPORTER ASSEMBLY

Note Pilot air pressure and valve settings are to be as defined in the “system air control settings” provided in the documentation package.

WEEKLY

+ Confirm 80 PSIG minimum air supply to system.
+ Check material inlet connection for leakage
+ Check air operated inlet and vent butterfly valves. (See butterfly valve check sheet.)
+ Check polytube and fittings for deterioration and leaks.
+ Visually check compressed air filter and filter/regulator for water and foreign material in the bowl.
+ With the system at rest check for audible evidence of conveying air flowing. This would indicate that the system pressure control solenoid valve may be stuck or that one or more of the pilot regulators is dirty and stuck in the open position.
+ During a normal transport cycle observe the following basic operations:
  - Vent valve and inlet valve operate simultaneously, closing when the transporter high level control is made.
  - System pressure controller solenoid valve is to open providing pilot air to the system starting the conveying process.
  - The pressure gauge directly downstream from the pressure controller solenoid valve should correspond to the pressure setting of the system pressure regulator. All other pilot line pressure gauges will read something less than that but there will be a reading and this will indicate that there is airflow to each device.
  - When the back pressure in the transporter falls below the high setting of the pressure switch the system pressure controller solenoid valve will close shutting down the system.
  - If batch requirements call for it, there may be a convey line purge at the end of a convey cycle. This would open the purge solenoid valve of the system air controls momentarily.
+ Verify airflow through each of the aeration jet. Procedure as follows:
  - Set transporter selector switch to disable.
  - Manually override the system pilot air solenoid valve to activate airflow through the jets.
  - Individually check each jet by restricting airflow through the jet hose to audibly detect airflow. If no flow is detected, disassemble to remove any foreign material.
  - Recheck to confirm problem was corrected.
  - Return selector switch to enable when procedure is complete.

VACUUM FILTER RECEIVER ***SEE DUST COLLECTOR/VACUUM FILTER RECEIVER***

WEIGH HOPPER

WEEKLY

+ Check all inlet and outlet flexible boot connectors, air and electrical connections to ensure there are no adverse loadings being applied that would affect weighing accuracy.
+ Check hopper top and remove any accumulated materials or foreign objects that would put a false load on the scale
+ Check inside of hopper for any material build-up and remove as necessary.
+ Check discharge butterfly valve for proper operation. (See butterfly valve checklist.)

MONTHLY

+ Check aeration jets (See aeration jet check list.)

NOL-TEC SYSTEMS®, INC.

PNEUMATIC CONVEYING SYSTEM OPERATING & TROUBLE SHOOTING MANUAL

TABLE OF CONTENTS

INTRODUCTION

This manual is intended to give you a basic understanding of a ***Nol-Tec*** Pneumatic Conveying System. The information is general in nature and meant to be used along with the prints and manuals supplied by ***Nol-Tec Systems*** for your specific system. Due to the inter-relationship between the electrical and mechanical functions of equipment, a thorough evaluation of a problem should be made prior to using any of the recommendations.

A typical transport system diagram is shown on Page 14 to help you to understand the system function and to identify specific components referred to in this manual.

BASIC SEQUENCE OF OPERATIONS

1. Check that the plant air supply to system is turned on.

2. Turn electrical system power on.

Automatic Mode

3. Start "Automatic" Mode via keyboard or push-button.

    a. System indicates "Automatic" mode on.

    b. Transporter inlet and vent valve open and material flows into transporter.

    c. System indicates transporter "Loading."

4. Material level in transporter reaches its level control.

    a. System indicates transporter "Full."

    b. Transporter inlet and vent valves close.

Note: To fill transporter, if system is not in automatic, utilize "Man Load" function via keyboard or push-button.

5. Inlet valve closed limit switch is actuated, starting inlet valve closed timer.

Note: Inlet valve closed timer is used to insure inlet valve is fully seated before allowing transporter to be pressurized.

6. Inlet closed timer times out - approximately 3 seconds.

    a. System indicates "Transporting."

b. Pilot air solenoid valve (7) is turned on, supplying regulated air to system pilot regulators.

c. The system pilot regulators supply regulated transport air to the transporter and conveying line.

d. Transport cycle started timer starts timing.

Note: Transport cycle started timer is used to hold transport air on until normal transporting pressure is reached in transporter - approximately 15 seconds.

7. As pressure in the transporter increases above 2 PSI, transporter pressure switch (3) PS-1 (low) is actuated (opened) inhibiting load cycle.

8. As pressure continues to increase to approximately 15 PSI, transporter pressure switch (3) PS-2 (high) is actuated (closed).

9. Transport cycle started timer times out. Transport cycle is now held on as long as transporter pressure switch (3) PS-2 is actuated.

Note: With the increase of pressure in the system, material is conveyed down conveying line to receiving bin.

10. When material level in transporter drops below transporter high level control, transporter "Full" indication is turned off.

11. When transporter empties and conveying line clears, pressure in the transporter decreases. When pressure drops below setting on transporter pressure switch (3) PS-2, it is de-actuated (opened).

    a. "Transporting" indication is turned off.

    b. Pilot air solenoid valve (7) is turned off, exhausting system pilot air.

    c. Transport air, to the transporter and conveying line, is turned off.

12. As pressure continues to drop, transporter pressure switch (3) PS-1 is de-actuated (closed). Pressure low timer starts timing.

Note: Pressure low timer is used to insure pressure in transporter is zero before inlet and vent open.

13. Pressure low timer times out - approximately 3 seconds.

Note: If system was not in automatic, a transport cycle can be initiated utilizing the "Man. Transport" function via keyboard or push-button. If transporter inlet is closed, inlet closed timer is timed out and receiving bin level is not high, transport cycle starts. Steps 6a through 13 take place as in automatic.

Note: System will continue to repeat steps 3b through 13 until one of the following steps take place:

14.1 Operator stops "Automatic" via keyboard or push-button.

a. "Automatic" indication is turned off.

b. If system was in a loading cycle it would stop loading and come to rest.

c. If system was in a transporting cycle, it would complete transporting cycle and come to rest.

14.2 Receiving bin high level control becomes covered and system will finish transporting cycle and come to rest.

Note: The above sequence is for a dual pressure switch system. If system has only one pressure switch, its setting would be approximately 4 PSI. When switch is deactuated, it functions as PS-1, and when actuated it functions as PS-2.

SAFETY

CAUTION: ***The most important fact to remember during trouble shooting is that the potential for the instantaneous release of high pressure gases mixed with the material being conveyed is a very real danger. Every precaution must be taken to eliminate the risk of property damage or personal injury due to carelessness or improper procedures.***

The component manuals outline the correct safety measures to follow for each specific piece of equipment. The system as a whole should always be looked upon as being under high pressure, until the person performing maintenance has personally verified otherwise.

This hazard exists especially if the system becomes plugged. There are special instructions in this manual for the proper depressurization procedures. Do not attempt to take short cuts. Familiarizing yourself with the manual as a whole is strongly advised.

There is also an element of danger electrically. Be sure that anyone working on the system is fully qualified to work with circuitry and voltages provided. Typically, industrial maintenance people are better informed and more aware of electrical hazards than they are with those associated with compressed air hazards. Therefore, the emphasis on the pneumatic hazards.

Note: ***Nol-Tec Systems*** expressly disclaims responsibility or liability for any injury or damage caused by failure to observe these specified precautions or by failure to exercise that ordinary caution and due care required in operating or trouble shooting the system, even though not expressly specified above.

MATERIAL BEING HANDLED

Material uniformity and consistency is a very important part of a systems function and performance. ***Nol-Tec's*** system design is based on the material(s) which will be handled. Deviation from original material specifications could create excessive wear problems, erratic system function and down time. Once system settings and rates have been established for the given material(s), introduction of material which is not to specification may cause unsatisfactory results.

Whenever a significant material change is made due to supply or process change, ***Nol-Tec*** should be advised. Re-tuning of system or recommended design changes to handle material may be required. Material being delivered to plant process for the most part, will only be as good as the material introduced into system. Educating plant personnel to this fact, will avert unnecessary down time and maintenance.

CONVEYING LINE PLUG

If a plug should occur, locating the area of the plug is advised. Finding the plug location may aid in determining the cause of the plug such as a worn tubing bend, conveying line switch/diverter malfunction, overfilling receiving station, misalignment of convey tubing, or leaks, in air supply or conveying line. Once system configuration has been established, a plug will only occur when an abnormal function or property has been introduced. Due to the different design applications based on a customer's specific needs, comprehending the following steps for unplugging a system is essential.

1. The first indication of a plugged conveying line is the transport cycle staying on too long. The transporter pressure gauge (2) will read at or near the pilot air pressure gauge (6), in a plugged condition. Gauge (2) should read zero in a non-plug non-convey state. The air control assembly shown is a basic layout. Fully acquaint yourself with your particular system configuration.

2. Locating the plug area can be achieved by monitoring gauges on air assist assemblies. Take special care that all gauges are functioning properly, and are not in a state of disrepair. Air assist gauges with pressure up readings indicate the plug exists further down stream from the transporter. Gauges with a low pressure reading indicate the plug exists upstream from the air assist, toward the transporter. The plugged area will therefore be between last high reading and first low reading air assist gauge.

3. Once the area of the plug has been established, tapping on convey tubing and listening for a tone change may further pinpoint plug location. Tapping on the pipe in the area plug may also dislodge the plugged pipe.

4. Increase transport air regulator setting in small increments until plug is voided or it has been determined that increasing air pressure will not unplug the system.

Disassembly is required at this point. All procedures prior to this step have been conducted with system in the "transport" mode.

Note: When the above procedure has been completed be sure to reduce regulator to its normal setting. Failure to do this could result in damage to the equipment and excessive wear.

5. Complete depressurization of system is critical prior to disassembly of any components on the system. Refer to the paragraph entitled "SYSTEM DEPRESSURIZATION PROCEDURE" for this procedure.

6. With system air supply turned off and depressurization of transporter completed, there still remains the possibility of air pressure being trapped in the conveying line between material plugs. Removal of the air assist assemblies just prior to and after conveying line coupling to be taken off is advised, greatly diminishing the possibility of a mishap.

7. Disassembly of convey tubing may now be implemented in the plug area. When plug has been cleared re-assembly of convey line should be done using installation guidelines.

Note: Once re-assembly is complete close emergency bleed-off valve, set transport regulator to its normal pressure setting and turn “Transporter Air Disable - Enable” selector switch to “Enable.” Initiate a manual transport cycle to clear transporter and conveying line.

SYSTEM DEPRESSURIZATION PROCEDURE

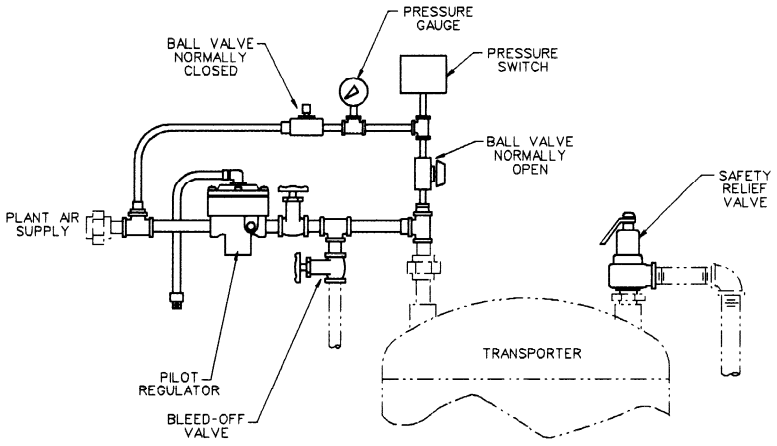
1. Turn "Transport Air Disable-Enable" selector switch near transporter to "Disable" and tag. If no selector switch is provided with your system turn the transport air regulator down to zero and tag.

2. Close the normally open “Pressure Switch Ball Valve” located between the transporter and pressure switch.

3. Slowly open the “Emergency Bleed-off Valve” located in the transporter top air supply line and tag. Some dusting may occur while transport air pressure is exhausted to atmosphere. When exhaust air flow stops and pressure gauge at the top of the transporter reads zero, the transporter should be depressurized.

4. Open the normally open “Pressure Switch Ball Valve.” This will vacate the line of residual pressure and force any material away from the pressure switch.

5 Open the normally closed “Pressure Switch Ball Valve” for a short time (10 seconds) to back flush any material from the line. Close the valve.



TROUBLE SHOOTING GUIDE

TROUBLE	CONDITION	POSSIBLE CAUSE	ACTION
Load Cycle Can Not Be Initiated	Transporter Indicates Full	Level is High	Normal
		Transporter Level Switch Failure	Check and Adjust, Repair or Replace
	Receiving Bin Indicates Full	Level is High	Normal
		Receiving Bin Level Switch Failure	Check and Adjust, Repair or Replace
	Transporter Low Pressure Switch Indicates Not Low	Pressure is Not Low	Initiate Man. Transport
		(Pressure Trapped in Transporter)	To Clear System (See Transport Cycle Too Short)
		Transporter Low Pressure Switch Failure	Check and Adjust, Repair or Replace
	Convey Line Switch Indicates Not in Position & Sealed	Convey Line Switch Failure	Check and Adjust, Repair as Required (See Convey Line Switch Manual)
		Insufficient Air Supply to Switch	Check and Resolve
Load Cycle Time Excessive	Transporter Inlet Not Open	Material Build-Up on Valve Seat	Check and Remove as Required
		Insufficient Air Supply to Solenoid	Check and Resolve
		Transporter Inlet Solenoid Failure	Clean and Repair or Replace as Required
		Mechanical Binding of Inlet Valve or Actuator	Check and Adjust, Repair or Replace as Required
	Transporter Inlet Indicates Open but is Closed	Inlet Butterfly Shaft Bolts Sheared or Shaft Twisted	Repair and Check for Interference When Operated

TROUBLE SHOOTING GUIDE

TROUBLE	CONDITION	POSSIBLE CAUSE	ACTION
Load Cycle Time Excessive	Inlet is Open but Transporter Doesn't Fill	Material Supply Depleted	Check and Resolve
		Wet/Lumpy Material	Check and Resolve
		Aeration Failure	Check and Repair
	Transporter Overfills and Inlet Stays Open	Transporter Level Switch Failure	Manual Transport to Clear System; Adjust, Repair or Replace Level Switch as Required
Transport Cycle Can Not Be Initiated	Transporter Inlet Valve Indicates Not Closed	Material Build-Up or Foreign Object Lodged	Check and Remove as Required
		Insufficient Air Supply to Solenoid	Check and Resolve
		Transporter Inlet Solenoid Failure	Clean and Repair or Replace as Required
		Mechanical Binding of Inlet Valve or Actuator	Check and Adjust, Repair or Replace as Required
		Transporter Overfilled	Remove Manhole; Remove Enough Material to Allow Inlet to Close; Replace Manhole
		Transporter Closed Limit Switch Failure	Adjust, Repair or Replace as Required
	Receiving Bin Indicates Full	Level is High	Normal
		Receiving Bin Level Switch Failure	Check and Adjust, Repair or Replace

TROUBLE SHOOTING GUIDE

TROUBLE	CONDITION	POSSIBLE CAUSE	ACTION
Transport Cycle Can Not Be Initiated	Convey Line Switch Indicates Not in Position & Sealed	Convey Line Switch Failure	Check and Adjust, Repair as Required (See Convey Line Switch Manual)
		Insufficient Air Supply to Switch	Check and Resolve
Transport Cycle Too Short	Transport Cycle Turns on for 15 to 30 Seconds With Little or No Transport Pressure Increase	Transporter Inlet Indicates Closed but Shaft Bolts are Sheared or Shaft is Twisted and Valve is Partially Open	Check and Repair or Replace as required
		Transporter Inlet Indicates Closed but Limit is out of Adjustment and Valve is Partially Open	Check, Adjust, Repair or Replace as Required
		No Air Supply to System	Check and Resolve
		Transporter Pilot Regulator Out of Adjustment or Failure	Clean and Adjust, Repair or Replace as Required
		Transport Air on Solenoid Failure	Clean and Repair or Replace as Required
		Transporter Empty	Normal
	Transport Cycle Turns on for 15 to 30 Seconds or Longer But Ends Prior to Transporter Being Empty	Transporter Pilot Regulator Out of Adjustment or Failure	Clean and Adjust, Repair or Replace as Required
		Insufficient Air Supply to System	Check and Resolve
		Transport Air on Solenoid Failure	Clean and Repair or Replace as Required
		Transporter Top Air Regulator Failure	Clean and Repair or Replace as Required
		Transporter High Pressure Switch Failure	Check and Adjust, Repair or Replace

TROUBLE SHOOTING GUIDE

TROUBLE	CONDITION	POSSIBLE CAUSE	ACTION
Transport Cycle Too Short	Material in Transporter Bridging or Rat Holing	Material Out of Design Specification	Check Material for Moisture-Mesh Size - Temp - Etc.; Contact ***Nol-Tec Systems***
		Foreign Debris, Lumps or Chunks in Outlet	Insure Transporter is Depressurized; Remove Outlet; Clean Out Transporter; Replace Outlet

Note: When material is left in the transporter after a transport cycle, air pressure may be trapped in the transporter. Clear system via manual transport cycles or depressurize as stated in "SYSTEM DEPRESSURIZATION PROCEDURE" section of this manual.

Transport Cycle Too Long	Transport Pressure Lower Than Normal	Foreign Debris, Lumps or Chunks in Outlet	Insure Transporter is Depressurized; Remove Outlet; Clean Out Transporter; Replace Outlet
		Insufficient Air Supply to System	Check and Resolve
		Transporter Pilot Regulator Adjustment Low	Adjust as Required
		Transporter Top Air Regulator Failure	Clean and Repair or Replace as Required
	Transport Pressure Normal	Small System Air Leak	Check and Repair as Required
		One or More Air Assists Failed	Check and Repair or Replace as Required
		System Plugged	See CONVEYING LINE PLUG This Manual

PRESSURE SWITCH SETTING PROCEDURE

(DUAL SET POINT PRESSURE SWITCH)

Plant air must be available at the pressure switch for calibration. The procedure depicted utilizes a continuity tester or ohm meter and system POWER TURNED OFF. Refer to Air PRESSURE SWITCH detail Page 14 for component identification.

1. PS-1 low pressure switch adjustment. (PS-1 is identified on the pressure switch under the small access plate).

    a. Connect a meter across the normally closed contact (terminals C and NC1) of PS-1, located under the large access plate of pressure switch (3).

    b. Open ball valve (1) about half-way.

    c. Close ball valve (4) until the pressure reading on gauge (2) is equal to 3 PSI.

    d. Adjust PS-1 calibration screw, located under the small access plate of the pressure switch (3), so the normally closed contact transfers to the open position.

    e. With meter still on the normally closed contact, open and close ball valve (4) and monitor gauge (2) to verify the setting. PS-1 should open as pressure increases to approximately 3 PSI and close when pressure drops near zero.

    f. If necessary repeat steps c, d and e until the proper setting is reached.

2. PS-2 high pressure switch adjustment. (PS-2 is identified on the pressure switch under the small access plate).

    a. Connect a meter across the normally open contact (terminals C and NO2) of PS-2, located under the large access plate of the pressure switch (3).

    b. Open ball valve (1) about half-way.

    c. Close ball valve (4) until the pressure reading gauge (2) is equal to the desired high pressure setting (8-15 PSI).

    d. Adjust PS-2 calibration screw, located under the small access plate of the pressure switch (3), so the normally open contact transfers to the closed position.

    e. With the meter still on the normally closed contact, open and close ball valve (4) and monitor gauge (2) to verify the setting.

f. If necessary repeat steps c, d and e until the proper setting is reached.

CAUTION: ***When calibration is completed CLOSE VALVE (1) and OPEN VALVE (4) and TIE VALVE (4) IN THE OPEN POSITION. Failure to keep valve (4) in the open position will cause the system to function improperly and may cause damage to equipment.***